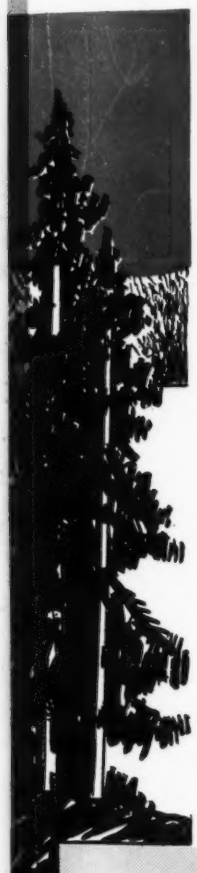
PAPER TRADE JOURNAL

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD



FINLAND
WOOD PULPS

FINLAND SUOMI

ANNUAL PRODUCTION { CHEMICAL PULP } Approximate 1,250,000 TONS
{ MECHANICAL PULP } 650,000 TONS

KRAFT PULP
AND SPECIALTY GRADES OF SULPHATE

DIESEN (Bleached)	HALLA	KOTKA (Bleached)
ENSO	KSSSF	LOHJA
GUTZEIT	KEMI	TORNATOR
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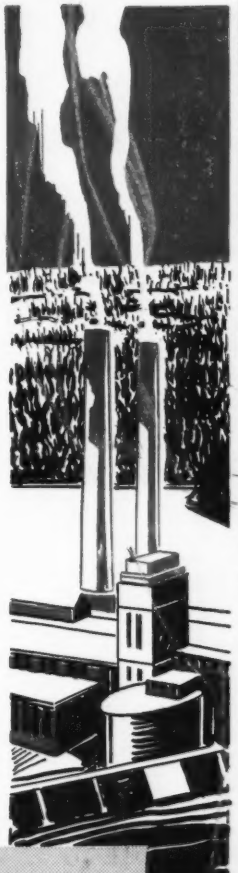

Finnish Cellulose Association — Finnish Wood Pulp Union

Exclusive Sales Agents for U. S. A.

LAGERLOEF TRADING COMPANY, INC.

52 VANDERBILT AVE., NEW YORK CITY

OCT. 14 1937

Vol. CV
No. 16

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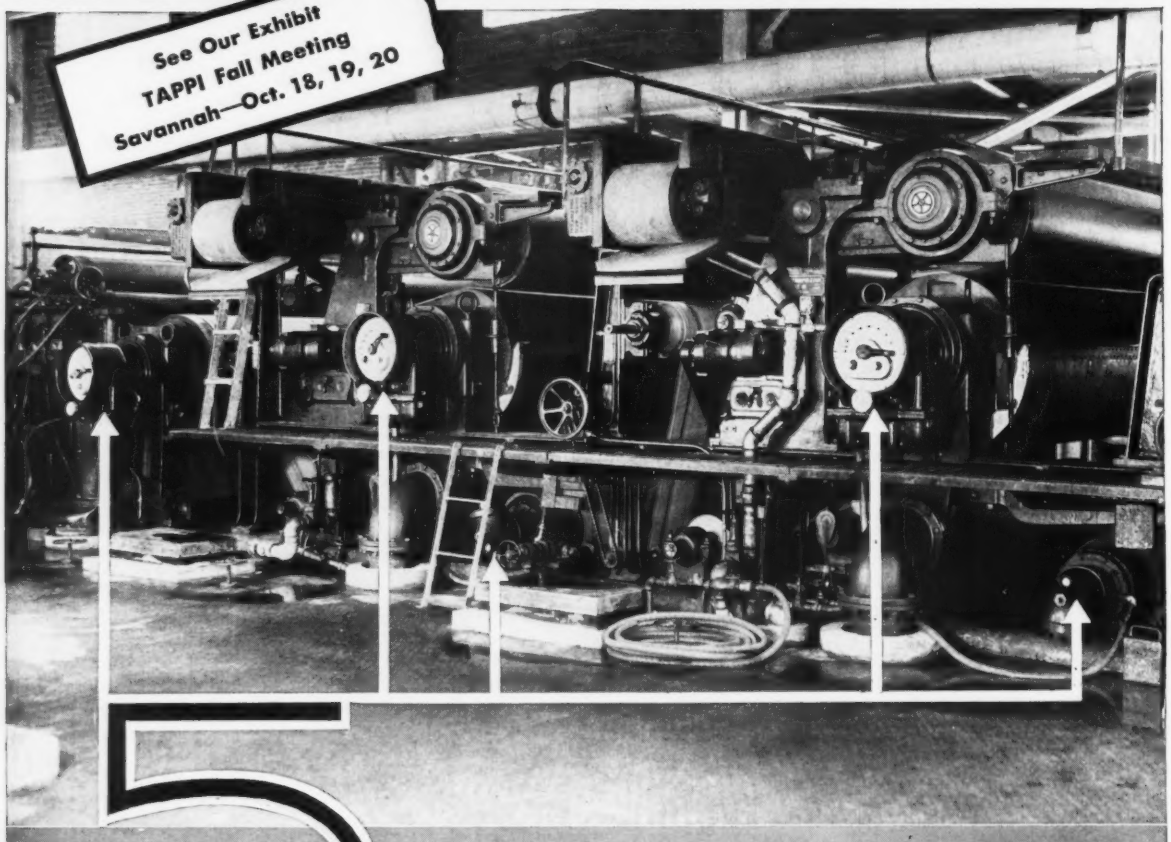
TAPPI Fall Meeting
Savannah—Oct. 18, 19, 20



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SUCTION ROLLS
AT CHARLESTON, S. C. MILL OF
WEST VIRGINIA PULP & PAPER CO.

Covington, Piedmont, Tyrone and Williamsburg Mills of West Virginia Pulp & Paper Co. also use modern Downingtown Suction Rolls, making a total of 18 rolls in these five mills . . . At Charleston, the Cantilever Suction Couch is 40" x 252", the two Suction Presses 36" x 250" and the two Suction Felt Rolls 20" x 252" . . . Modern Downingtown Suction Rolls are built in any size or type to meet your needs. The Downingtown Mfg. Co., Downingtown, Pa.

OLDEST MANUFACTURERS OF MODERN SUCTION ROLLS

Entered as second class matter at the Post Office at East Stroudsburg, Pa., under the Act of Congress of March 3, 1879. Published every Thursday by the Lockwood Trade Journal Co., at 34 N. Crystal St., East Stroudsburg, Pa. Executive and Editorial office: 15 W. 47th St., New York, N. Y. Domestic subscription U. S. and possessions, $4.00 per year.

PAPER TRADE JOURNAL

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

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FUTURE TRENDS

The future performance of *TENAX FELTS* will be as in the past, "Excellent." We predict this steadfastly and confidently, based on records of long standing.

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For example, Everfast Fabrics, Inc., needed a rapid, accurate form of communication between its New York office and the "finisher's" plant in Wilmington, Delaware. Bell System representatives offered to analyze the existing set up with company officials.

Together they found that Private Line Teletypewriter Service would not only solve the communications problem, but also effect new efficiencies in order handling . . . that it would speed-up shipments a whole day, strengthening customer good will . . . would save $50 per month over former equipment costs . . . would reduce the average time for transmitting orders by 40% . . . and that one teletyping, with carbons, would provide the order form, invoice, billing record, production guide, packing slip, and parcel post label.

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PAPER TRADE JOURNAL

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PAPER

SIXTY-SIXTH YEAR

PAPER

Established Feb. 17, 1899
Consolidated Nov. 16, 1899
with PAPER TRADE JOURNAL.

Vol. CV, No. 16 Thursday, October 14, 1937

Established Sept. 21, 1910
Consolidated Feb. 19, 1925
with PAPER TRADE JOURNAL.

Institute of Paper Chemistry Prospers

Annual Report of Director Barrows Shows That the Institute Continues To Make Steady Progress — Student Enrollment For the Coming Year Is Largest In History of the School — Tuition Is To Be Increased In 1938.

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., October 11, 1937 — The annual meeting of the membership of The Institute of Paper Chemistry was held September 14 and Thomas N. Barrows, director of the Institute presented the customary annual report which showed that the institution has in every respect been making gratifying progress during the past years. The report follows in full:

Steady Progress

The steady progress of the Institute which has gone on since its very beginning still continues. The budget for the past year has been balanced, and we have been able to take care of all current operating expenses, reserves for depreciation and research, and to finish the year with a modest operating surplus. The budget for the coming year is estimated at more than $300,000, an increase of about $30,000 over the year just past. There have been gifts toward building fund in addition to substantial gifts of equipment and cash from a number of individuals, corporations and associations.

The endowment for scholarships has been increased by a fine gift of more thas $10,000 and a considerable number of scholarships for the year have been provided. However, our scholarship income is still far from adequate to take care of the needs.

During the year there has been some reorganization of administrative offices and laboratory facilities to the end that the various divisions are now adequately housed as units.

New Dormitory for Students

In order to meet the increased enrollment the Institute is decorating and furnishing a new dormitory for its students. With this building all the Institute students will be housed in three well furnished and very livable dormitories. The men will eat together in their special dining room in Brokaw Hall.

It is significant that there have been no changes in personnel, except that of director, in the major positions of the organization during the past year. We have had some turnover among technical assistants, secretaries, and maintenance staff which is to be expected. Actually we might interpret this situation as being a very constructive aspect of the Institute's service to the industry. We shall always be having young men come into the junior positions and after a few years move on into the industry greatly benefited by the training and experience they have had on our staff. It is gratifying to note how well many members of our staff are fitting into the community life and the permanence of our major officers is becoming apparent by their purchase of homes and their attachment to the Institute and the community.

Largest Student Enrolment

The student enrolment for the coming year is the largest in the history of the Institute and will include 47 students, an increase of six over last year. We are expecting to have 16 men in the first-year class, 13 in the second year, 9 and 5 in the third and fourth years, with 4 special students. It may be of interest to note that our present student body has been graduated from 32 separate institutions and come from 18 states and the District of Columbia. The first-year class was graduated from 15 institutions in 11 different states.

Selection of Students

The selection of students still continues to be a matter of great importance and Dean Lewis visited 64 colleges and universities and interviewed approximately 150 students in 27 states in making the selections for the present first year class.

The board of trustees authorized an increase in tuition by $200 per man effective September, 1938, which will involve an equivalent increase in most instances in scholarship allowances to be awarded. The scholarship grants for the first-year men this year and hereafter for the first two years have been reduced by $100, but we have created a loan fund from which students are eligible to borrow to meet their financial needs, repayments to be made after they leave the Institute and become established.

Field Course in Wood Technology

The field course in wood technology, the so-called "bush course," was held last September for the second time at Witch Lake, Michigan, under the

(Continued on page 49)

Quebec Supplies Half Canada's Newsprint

Lt.-Col. Marquis of Forest Products Bureau States Province of Quebec Produces 20 Per Cent of World's Newsprint Output — Sulphite Pulp Industry Increases From 650,000 Tons To Over 1,200,000 Tons In Decade.

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., October 11, 1937. — The importance of the Province of Quebec in respect to the world supply of newsprint was the theme of an address given before the Engineering Institute of Canada here by Lt.-Col. L. J. D. Marquis, forestry engineer of the Quebec Forest Products Bureau. Claiming that Quebec produces half of Canada's newsprint and 20 per cent of the world's supply, he said that within the province are 41 of the Dominion's 95 pulp and paper mills, while the recent re-opening of the mills at Beaupre and Chandler and the proposed resumption of activities at Baie Comeau, Cap de la Madeleine and Chicoutimi gives promise that the increase in annual production of recent years will continue. Supporting this outlook, Lt.-Col. Marquis pointed to the immense forestry reserves Quebec possesses in its 153,459 square miles of vacant Crown land.

The speaker dealt also with important by-products of the pulp and paper industry, instancing rayon, silk, cellophane and carbon gas. Development of the latter, he claimed, could be made to supply a substitute for the 1,244,366,000 gallons of gasoline which Canada imported last year at a cost of 150,000,000.

Sulphite Pulp Industry Growing Rapidly

While production of newsprint in Canada is at present at the highest level in history, and the prospects better than for many years, another development is taking place to which not much attention has been given, and that is a rapid expansion of those departments of wood pulp production which have little or nothing to do with the production of newsprint. There are many in the pulp and paper industry who regard prospects in this direction as more encouraging than in newsprint. Demand for all grades of pulp, and in particular for chemical pulp, has been growing by leaps and bounds, and so important and varied are the commodities for the manufacture of which chemical pulp is the raw material, that some are inclined to think this branch of the industry will in time overshadow newsprint production.

Canada's Production of Sulphite Increasing

In 1920 Canada provided less than 650,000 tons of bleached and unbleached pulp. During the next ten years production advanced to over 1,200,000 tons. There was a recession in production during the depression but last year the output had recovered to practically the level of 1929. This does not tell the whole story, however. While unbleached sulphite has been in stronger demand, that has been more as a reflection of the increased output of newsprint and fine papers. The big increase has been in bleached sulphite, production of which is now far ahead of that in 1929, while unbleached is still below 1929 figures. The demand for bleached sulphite is a direct reflection of the growing production of soda commodities as artificial silk, cellophane, etc.

In this connection it is noted that the same price restrictions as apply to pulp used for the manufacture of newsprint do not apply to the chemical pulps. Sulphate pulp, which dropped to $26 per ton in 1932 is selling at between $60 and $70 a ton, and bleached sulphite, which in 1932 was selling at $41.65 per ton, has risen in value to $95 per ton.

Prepare for Opening Paper Bids

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., October 13, 1937—The Paper Specifications Committee of the Joint Congressional Committee on Printing held its preliminary meeting this week to begin preparing specifications for the paper opening for the Government Printing Office.

The present semi-annual contracts expire on December 31 so that bids will have to be opened and awarded so that the new contracts will be in force for the coming six months effective January 1.

While no announcement of any kind has been made it is generally believed that contracts will be made for another six months' period, as has been done for the past several years. It is believed that the bids will be opened sometime during the latter part of November with the awards to be made the following week.

Dr. F. P. Veitch, who has been a member and chairman of the Paper Specifications Committee for the past 26 years has resigned as has Arthur H. Smith who represented all of the executive branches of the government on the committee. F. A. Dony of the Post Office Department has been appointed to succeed Arthur Smith but no one has yet been appointed to take the place of Dr. Veitch.

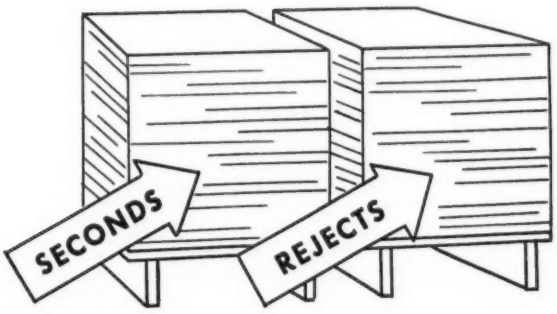
Japan Increases Pulp Production

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., October 13, 1937 — That the efforts currently being made in Japan to increase pulp production are proving successful is indicated by the fact that output during the 1937 second quarter, amounting to 430,173,000 pounds, is the highest thus far recorded for any calendar quarter and is 13 per cent greater than the previous quarter's total and 14 per cent greater than output during the 1936 second quarter. Considering the large number of pulp projects which have been announced in recent months, some of which involve plants which may be put into operation before the end of this year, it may reasonably be expected that the increase in output of pulp will become steadily more decided.

Imports of paper and rayon pulp during the 1937 second quarter reached 280,257,000 pounds, this total showing an increase of 55 per cent from the previous quarter's total. Compared with imports made during the second quarter of 1936, there was a gain of 68 per cent.

FEWER *Throw-outs*



One smart way to jack up production is to cut down the percentage of seconds and rejects . . . The Bird Triple Treatment Centrifiner does a tremendously thorough job of dirt removal. Sorting time as well as quantity of rejects is sharply reduced . . . Let us figure the difference this would make in your case.

BIRD MACHINE COMPANY
SOUTH WALPOLE · MASSACHUSETTS

THE BIRD CENTRIFINER

YOU CAN MAKE MORE MONEY WITH NEW BIRD MACHINERY

Wisconsin Mills Introducing New Products

Competition Being Met With New Brands and Paper Products — To Give Evening Courses In Pulp and Paper Manufacturing—Good Demand For Process Coated, and Matched Sets In Cartons — Industrial News.

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., October 11, 1937 — Wisconsin mills are keeping pace in the highly competitive paper market by the constant introduction of new products and brands.

George A. Whiting Paper Company, Menasha, Wis., has added Brockway cover, named in tribute to the late Frank Brockway Whiting, founder of the mill. It is a stock of unusual strength, vividness of color, easy folding qualities, and priced low enough to qualify as a utility cover.

Tomahawk Kraft Paper Company, Tomahawk, Wis., has introduced a new line of butchers' papers. New wrappers and labels have been designed, and dealers are showing an enthusiastic receptance.

Neenah Paper Company, Neenah, Wis., has recently placed on the market a new light green Resolute Ledger, 50 per cent. rag content. Its sales appeal is that it is "easy on the eyes."

A new item of the Appleton Coated Paper Company, Appleton, Wis., is an enamel book made expressly for the demand for a coated stock especially suited to offset work. It is called Empress Offset Enamel, and its moderate cost as well as its acceptance by offset printers is bringing it a large production volume.

Daniels Manufacturing Company, Rhinelander, Wis., has issued a new Napkin Demonstrator portfolio for its distributors, and it is popularly received by the trade. Two new designs, "Fizz" and "Tweet" have been added to its line of Aperitif beverage napkins. Other new additions are "Spic" and "Toto" embossed toilet papers. A new set of paper towels with attractive labels also is drawing popular demand.

Good Demand for Process Coated Paper

Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis., is enjoying an increasing demand for its Process Coated Paper, the product which is coated on both sides directly on the paper machine with its original manufacture. Officials and engineers of some of the leading paper companies have visited the mill to inspect this process in operation, and some have already entered into negotiations for the right to use this process in their own plants. Rights for the process have been sold thus far to: Lloyd Company in England; Kymmene Corporation in Norway, Sweden, Denmark and Finland, and to the Papier Industrie A. G. of Zurich, in France and Switzerland. Beloit Iron Works, Beloit, Wis., has made the machines for Lloyds and Kymmene company.

Wausau Now Making Bleached Grades

Since M. E. McGarry has assumed the position of manager of sales for the Wausau Paper Mills Company, Brokaw, Wis., the conversion of the mill from wrappings to bleached grades has been accomplished almost 100 per cent within a very short period. Rapid strides have been made in improving the quality of the product, and these new lines now have an established and growing market.

Menasha Products Popular

Matched ensembles introduced by the Menasha Products Company division of the Marathon Paper Mills Company, Menasha, Wis., are proving a marketing success with women buyers. A hostess can now be sold plates, cups and napkins to match table covers. The Dispensanapkin carton style package napkin has, within one short year, created a new vogue in packaging of napkins.

Flambeau Groundwood Specialties

By employing additional trained technical personnel in recent months, the Flambeau Paper Company, Park Falls, Wis., has been able to develop a leading market position for its groundwood specialties in the lower priced field of finer paper grades. Efficiency of the mill has been improved by the installation of a new Babcock-Wilcox Stirling water tube boiler, having a capacity of 1,000 h. p. and built for an operating pressure of 200 pounds. It is housed in an addition to the mill, recently completed. Eventually all of the mill's boilers will be replaced with units of this type.

Wisconsin Metal Binding Co. Organized

Wisconsin Metal Binding Company has been organized as a subsidiary of the School Stationers Corporation, Neenah, Wis. It will function as the licensee for Cercla binding of catalogues, booklets, etc., using the new rust-proof metallium ring binding system.

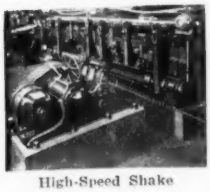
Wisconsin Paper Group Form Committees

Two committees appointed by Fred C. Heinritz, president, are functioning for the Wisconsin Paper Group, Neenah, Wis., the pool car shipping organization of Wisconsin mills. One is the advertising committee, with Gene Colvin, Appleton Coated Paper Company, as chairman. The members are: Stuart Thompson, Central Paper Company; Lee Turley, Nekoosa-Edwards Paper Company; Taylor Ward, Bergstrom Paper Company; Leo Schubart, Neenah Paper Company. Mr. Schubart is secretary-treasurer of the Group, and serves ex-officio. The other is the traffic committee, with the following members: Henry Krueger, Fox River Paper Company; and Clarence Merkle, Mensha Products Company.

Asks I. C. C. Aid in Freight Complaint

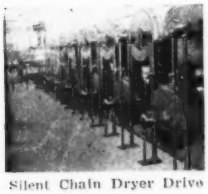
The Wisconsin Paper and Pulp Manufacturers's Traffic Association, with offices at Chicago, Ill., has been authorized by the Interstate Commerce Commission to intervene in a complaint filed by the Chicago-Milwaukee Motor Carriers, Inc., against the Chicago and North Western Railway and other carriers. The association represent 13 paper manufacturers in Wisconsin.

Rubber-Covered Suction Roll



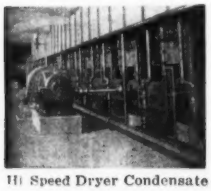
High-Speed Shake

Hypoid Bevel Gear Drive



Silent Chain Dryer Drive

Balanced, Oilless Steam Joints



Hi Speed Dryer Condensate Remover

Automatic Winder and Roll Unloader

You Pay *for these* Improvements whether you use them or not

During the many recent hearings at Washington experts have testified that nearly one-third of all paper in this country is made on obsolete machines.

With wages and hours definitely set, the only way to make additional profits is through the operation of your machines. Use of less power to perform the same job, consumption of less oil and materials, elimination of undue break losses, lower clothing costs, production of better paper, speeding up of production—these are but a few of the many items that MODERN Beloit machinery can help to correct very definitely.

Thus, when you are not taking advantage of the Beloit improvements that are known and available to you for lowering your costs—your profits are just so much less—and whether you use these improvements or not, you actually are paying for them. The difference that you would save would soon pay for the new and improved equipment.

These facts have been established frequently in our contacts with mills and can be proved to you conclusively.

BELOIT IRON WORKS · PAPER MACH'Y · BELOIT, WIS.

THE BELOIT WAY IS THE MODERN WAY

BELOIT

Beloit Iron Works, Beloit, Wis., U.S.A. Founded 1858

Newsprint Price of $47.50 Per Ton Expected

Forthcoming Announcement By Great Northern Considered By Export Association To Affect Small Per Cent of Canadian Production — Pulp Mill For Terrace Bay — Buys Pulpwood From Farmers — Other News.

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., October 11, 1937—When Great Northern Paper Company announces its newsprint price for 1938, it will not be of such world-shaking importance to the whole industry as it was when the company a year ago announced its price for 1937. At that time the industry as a whole was hoping for a price of from $45 to $47 a ton and $42.50 a ton was a distinct disappointment to most producers. Because of old contracts whereby producers gave publishers the benefit of whatever might be the lowest price quoted, that announcement made $42.50 a ton the price for the whole industry. Great Northern has cheap production and not much financial overhead to consider. If it quotes $47.50 a ton for newsprint within a few days, as some expect, it will be easy for it to function at that price. It will be a matter of importance to its customers but the Canadian Newsprint Export Manufacturers' Association recently stated that the declaration of such a price would affect only five per cent of Canadian production.

In other words, the industry as a whole is now operating under contracts which do not include a clause which makes the lowest price the price for the whole industry. The price of $47.50 would be $2.50 a ton under those named in contracts of International Paper and most other Canadian producers. The latter did not wait for Great Northern this year and its price will be interesting mainly to publishers because it will give them an argument against further increases if producers should consider another boost.

It will not affect the newsprint situation generally in Canada since it will not operate in the open market. The Daily News has heretofore been securing its newsprint supply largely from the International Paper Co. While the Baie Comeau mill will naturally cause a switch in the supply for the New York Daily News, still it is anticipated that by next year the New York paper will have to purchase a large amount of paper over and above that received from Baie Comeau in order to meet its own requirements.

Pulp Mill for Terrace Bay

Arrangements for the construction of a 100-ton sulphite pulp mill at Terrace Bay on Lake Superior, five miles east of Schrieber, Ont., have been completed by the Ontario Government, with a company presumed to be Long Lac Paper Co., a subsidiary of Kimberly Clark Paper Co., of Neenah, Wis. The new sulphite mill is expected to employ 4,000 men. The quantity of timber the company will be allowed to export is limited. Some months ago the company received timber cutting rights in Long Lac area and permission to ship pulpwood to United States mills.

Buy Pulpwood From Farmers

The Hammermill Paper Co., of Erie, Pa., have purchased 4,500 cords of poplar pulpwood from farmers of the Thunder Bay district of Ontario and have stored it in a water lot at the south end of Port Arthur. In addition to the quantity of wood, the company shipped out during the past season some 8,000 cords. John Boswell, of the Hammerville company, said that his concern had been buying and shipping wood from the Thunder Bay district for upwards of 30 years and about 180 farmers had benefitted from the operations of the company. Woods activities generally started in May and continued till about the middle of September.

Hinde & Dauch Co. Doing Well

L. F. Winchell, vice-president and general manager of Hinde & Dauch Paper Co., of Canada, in a statement to the company's shareholders says that the demand for products during the third quarter tapered off somewhat as compared with the demand during the first half of the year. "Nevertheless," the statement says "our production totals for the first nine months are well ahead of any we have accomplished in the past, and the present prospects are that during the final quarter we shall lose none of the increase already made. Raw material prices continue to firm at the higher average levels and on some lines (certain grades of pulp in particular) further advances have been made and the immediate prospect is that there will be no easing off for some time to come. This is undoubtedly indicative of two things—the necessity for meeting higher production costs and the general confidence in the future that is held within the industry. The construction of our new boiler room is under way, and it is expected to be in economical operation before the year-end. Deliveries on other auxiliary orders (orders for which were placed nearly a year ago now) are beginning to be made and installation will be pursued with all despatch possible. We should enter 1938 in the best production position in our history. Through the processing changes recently made, new peaks in production are already being reached and on a basis that can be sustained."

Ontario Paper Speeds Plans

Work on the Ontario Paper Co.'s newsprint development at Baie Comeau has progressed faster than anticipated and it is now expected that the new mill will go into operation next March instead of June 1 as originally planned. Machinery and mill equipment are now being installed. When complete the Baie Comeau mill will produce 350 tons of newsprint a day and its entire output will go to the New York Daily News, which, together with the Chicago Tribune, owns the Ontario Paper Co.

Keith Paper Co. Signs With Brotherhood

[FROM OUR REGULAR CORRESPONDENT]

TURNERS FALLS, Mass., October 12, 1937. — The Keith Paper Company has signed an agreement with the International Brotherhood of Papermakers affecting about 300 employees. A raise of about six cents an hour is included in the agreement.

THEY LAST *10 times* AS LONG!

Actual service in pulp and paper mills has proved the outstanding value of these valves. They have outlasted the all-iron valves 10 to 1 . . . and more . . . in soda and sulphate mills. Small wonder that pulp and paper mill operators prefer Walworth Fig. 725FS Gate Valves and Fig 928FS Swing Check Valves.

Fig. 725FS and Fig. 928FS are special iron alloy valves. They are part of the complete line of valves which Walworth makes to assure "the right valve for each and every service." If you want long valve life, positive control and low maintenance, specify Walworth.

GATE VALVES

Fig. 725FS OS&Y Gate Valve

Send for Circular No. 75, Paper Mill Division, Walworth Company, 60 East 42nd Street, New York, N. Y.

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VALVES FITTINGS and TOOLS
Backed by 95 Years' Service

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PhiladelphiaP.T.A.PlansEducationalCourse

Announcement of Tentative Schedule of Proposed Paper Trade School For 1937-38 Attracts Wide Interest—Applications Double Those of Last Year — Course To Cover Salient Points of the Entire Paper Industry.

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., October 11, 1937. — Widespread interest is manifested in the announcement recently sent out from the Paper Trade Association of Philadelphia, over the signature of Wm. A. Hentz, Chairman of the Educational Committee, regarding the tentative schedule of the proposed Course of the Paper Trade School for the year 1937-38.

It will be remembered that the Paper Trade Association of Philadelphia conducted a similar course last winter under the direction of Ormond Freile, and Doris E. Lewis, president and executive secretary, respectively, of the Association. At that time it was the intention of President Freile to limit the class to fifty students, but exactly twice that number applied for registration. Mr. Freile was then confronted with the task of either having to have two classes of fifty students in each class, or augmenting his class of fifty to one hundred. President Freile decided that no one should be disappointed, and made arrangements for the one hundred who had enrolled, so that all could participate in the various lectures and visitation that were included in the course.

So successful was this Course in Paper Study last year that the Board of Governors of the Paper Trade Association of Philadelphia has decided to conduct a course along the same lines this year. The Course will include twelve sessions and will deal in paper from start to finish. The tentative schedule is as follows: On November 12 Lecture No. 1—Opening Address; Welcome to Class and Object of Course; History of Paper Making; Organization of the Paper Industry and the Paper Merchant; Manufacture of Pulps. December 2, Lecture No. 2, a visit to a prominent paper mill. December 9, Lecture No. 3, Taking The Clock Apart. December 16, Lecture No. 4, Through The Finishing Room. January 6, 1938, Lecture No. 5, The Romance of Wrappings. January 6, Lecture No. 6, Moving Pictures of Paper Making. January 13, Lecture No. 7, Sales Ammunition, No. 1—which will comprise Blottings, Cardboards, News Family and Uncoated Book. January 27, Lecture No. 8, Sales Ammunition No. 2, Coated Paper and Why, Cover Paper and Writings. February 3, Lecture No. 9, Science and Ethics—The Laboratory and Its Relationship to Paper; Credit Bureau Operation; Market Relations and Quiz Papers. February 10, Lecture No. 10, The Romance of Printing Paper. February 17, Lecture No. 11, How to Win Friends and Influence People. March 3, Lecture No. 12, The Art of Paper Salesmanship; Closing Address and awarding of diplomas.

Classes in this course are open only to salesmen or members of the staff employed by members in good standing of the Paper Trade Association of Philadelphia. Tuition will be $7.50 for the complete course of lectures, which lectures will be held from 7 to 9 P. M. on the dates specified above—(the meeting place will be announced later.) Students must be enrolled by their companies, and enrollments should be accompanied by a check to the order of the Paper Trade Association of Philadelphia. All correspondence relating to classes and tuition fees should be addressed to Mrs. Doris E. Lewis, Executive Secretary, Paper Trade Association of Philadelphia, 355 Drexel Bldg., Philadelphia, Pa.

Paper Merchants Issue Catalogue

Paper Merchants, Inc., Philadelphia, under date of October 2nd, issued a new and complete 180-page Price Catalog, consisting of a loose-leaf book, subdivided into twelve classifications of paper, envelopes, and cardboard.

George Predmore Nuptials

Virginia Lucy Predmore, daughter of Winfield Predmore, president of Paper Merhants, Inc., one of Philadelphia's leading wholesale paper houses, was married in Francis Child M. E. Church, West Collingswood, N. J., on Thursday evening, October 7th, to Mr. Robert A. George, son of Mr. and Mrs. A. George of West Collingswood. A reception at the home of the bride followed the wedding. After their return from a wedding trip to Canada, they will reside at their new home in Oaklyn, N. J.

Denies Review of Newsprint Case

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., October 13, 1937. — The United States Supreme Court on Monday of this week refused to review a lower court decision in connection with a standard newsprint case.

In this case, No. 233, of F. W. Myers & Co. who imported newsprint paper for the *Christian Science Monitor*, there had been several decisions and the case is of considerable interest to the paper industry.

The *Monitor* had a 36 pound newsprint paper imported into the United States for use in its magazine section. According to the government definition standard newsprint is 32 pounds. A duty was assessed on the importation. The case was taken to the United States Customs Court which held that it was free of duty. This decision was appealed to the Court of Customs and Patent Appeals which held that the importation was dutiable. The publishers then asked the Supreme Court to review the decision of the lower court. This has been refused.

G. T. Standbridge Succeeds Father

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., October 11, 1937—George T. Standbridge, Jr., is to represent in Boston the Champion Paper and Fibre Company, of Hamilton, Ohio, succeeding his father, who died recently. Mr. Standbridge will continue in the office at 201 Devonshire street.

EBG GETS A CLEAN BILL OF HEALTH... VALVES GIVEN FINAL INSPECTION. *Besides being thoroughly cleaned and inspected when returned to the plant, all valves are given another final test before the container is shipped out. We insist upon perfect performance. It is the last step in a rigidly maintained system of cleaning, scouring, steaming and reconditioning that all EBG cylinders are submitted to before they get a clean bill of health. Such Dutch housewife thoroughness is your guarantee of efficient results when you use EBG Liquid Chlorine.*

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ELECTRO BLEACHING GAS COMPANY
Main Office: 60 East 42nd Street, New York, N. Y.
Plant: Niagara Falls, N. Y.

EBG Liquid Chlorine
FIRST IN THE COUNTRY

Rise in Tonnage Not As Large As Expected

Chicago Reports That Slowness Has Invaded Virtually All Grades of Paper — Waste Papers Continue Comparatively Slow — Chicago Power Show Attracts Large Number of Technicians From the Paper Industry.

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., October 11, 1937—While there is every reason to believe that local market conditions will work themselves out satisfactorily, there are a number of points which are not conducive to optimism. While tonnage has increased somewhat during the fall season, the rise has not been as sharp as expected. The slowness has invaded virtually all grades in certain markets, particularly sulphite. Instabilities in certain grades of this product and in certain coated enamels have been reported by local firms. The kraft market is little changed with the discount situation reported as having a worrisome cast. Book and cover papers showed a continued comparative slowness in demand though the market itself was characterized as holding up well. Bonds and ledgers in most grades were little changed during the week. Waste paper continued comparatively weak with mills showing little or no interest in the supply on hand.

Power Show Largely Attended

The Chicago Power Show, gigantic panorama of what is new in the power industry, took the spotlight in Chicago this week. Exhibits of 153 companies from 31 states were the highlights of the program which was carried on in the International Theatre. It was estimated that more than 10,000 buyers and technicians, many of them from the paper manufacturing industry, attended the affair which gave special prominence to the 40th anniversary of the introduction of Diesel power in the United States. Many manufacturers exhibited the latest types of Diesel generating equipment and other applications of Diesel power.

Many of the displays featured exhibits of air conditioning equipment to make industrial plants more helpful and the same group of exhibits also featured developments in industrial safety equipment.

Devices for turning waste heat into power, with particular application to the paper and pulp industry which uses about 10 million tons of coal annually, were easily the big feature as far as the paper industry was concerned. Cutting machines and finishing machine parts, shell condensers and other power machinery also got a considerable amount of attention. Of historical interest was the wooden model made by Paul Revere from which he built the first copper rolling mill in America in 1801. Many of his letters and drawings of machinery were a part of the same exhibit.

Annual Prize Winners

As a pleasant aftermath of a successful summer season, the midwest division of the Salesmens Association of the Paper Industry now gives publicity to the prize winners at the final annual outing held at Olympia Fields Country Club on September 23. The event drew many guests attending the N.P.T.A. meeting in Chicago and a total of 175 members and guests enjoyed the lunch, golf and dinner. All arrangements were under the capable direction of R. H. Burnett, chairman of the golf committee.

Blind Bogey, Vern Field, Dwight Brothers Paper Company, Chicago.

2nd Blind Bogey, Frank Prentiss, Hollingsworth & Whitney Company, Chicago.

Low Gross, Robert Cochran, Orchard Paper Company, St. Louis.

2nd Low Gross, Gene Hammes, Butler Paper Corporation, Chicago.

Low Net (17 and Under), E. M. Vana, International Tag and Sales Book Company, Chicago.

2nd Net (17 and Under), John Manske, Nekoosa-Edwards Paper Company, Chicago.

3rd Net (17 and Under), W. A. Munro, Flambeau Paper Company, Park Falls, Wisc.

4th Net (17 and ties), A. E. Anderson, Bryant Paper Company, Chicago; R. E. Harbison, International Paper Company, Chicago; R. C. Johnson, Northwest Paper Company, Chicago.

Low Net (18 and over), J. A. Wesley, Rhinelander Paper Company, Rhinelander, Wis.

2nd Low Net (18 and over), J. T. Burruss, Albemarle Paper Company, Chicago.

3rd low net—(ties) Harold R. Knott, Eastern Manufacturing Company, Chicago; C. B. Engh, Dwight Brothers Paper Company, Chicago; G. G. Olson, American Writing Paper Corporation, Chicago; F. M. Stephens, Sorg Paper Company, Chicago; C. A. Beal, Herald Argus, LaPorte, Ind.; H. R. Telfer, Detroit Sulphite Pulp and Paper Company, Detroit, Mich.

Low Putts (1st nine), Leonard Kuehl, Flambeau Paper Company, Park Falls, Wis.

2nd Putts (1st nine), P. H. Oliver, Hobart Paper Company, Chicago.

Low Putts (2nd 9) (ties), L. H. Sisson, Racquette River Paper Company, Cincinnati; A. V. Pleasance, Montgomery Ward Company, Chicago; Joe Heyer, Cherry River Paper Company, Chicago.

Low Gross Par 5's, A. G. Shennon, International Tag and Sales Book Company, Chicago.

2nd Low Gross 5's, W. B. Moore, Brown Company, Chicago; Graham Jackson, Moser Paper Company, Chicago.

Low Gross Par 3's, Bob Seybold, Seybold Paper Company, Cincinnati.

2nd Low Gross Par 3's, A. J. Austin, Moser Paper Company, Chicago; Fred W. Cole, Fraser Paper, Limited, New York City.

Low Net Foursome, W. J. LaCrosse, American Writing Paper Corporation, Chicago; Ed. Beimfohr, Crocker-McElwain Company, Chicago; Don Cuyler, Whitaker Paper Company, Detroit; G. G. Olson, American Writing Paper Corporation, Chicago.

2nd Low Net Foursome, Herman Berge, Appleton Coated Paper Company, Chicago; Fred Huff, Central Tag Company, Chicago; A. G. Shennon, International Tag and Sales Book Company, Chicago; Ed.

Vana, International Tag and Sales Book Company, Chicago.

Low Putt Foursome, Geo. Mueller, Midland Paper Company, Div., Chicago; A. J. Austin, Moser Paper Company, Chicago; Bert Tucker, Parker, Thomas & Tucker Paper Company, Chicago; Hugh Brower, Wytek Sales Company, Chicago.

2nd Low Putt, Ham. Vose, Berkshire Papers, Inc., Chicago; Fred Cole, Fraser Paper, Limited, New York City; F. T. Webb, Sun Life Insurance Company, Montreal, Que.; A. V. Pleasance, Montgomery Ward Company, Chicago.

High Gross Foursome, George Clark, Bradner Smith & Co., Chicago, Harold Pfister, Bradner Smith & Co., Chicago; Frank Foley Blandin Paper Company, Chicago; J. T. Daly, Wrenn Paper Company, Chicago.

2nd High Gross Foursome, John Loughrin, Messinger Paper Company, Chicago; Louis Ellis, Northwest Paper Company, Chicago; Cliff Strong, International Paper Company, Chicago; Joe Rye, International Paper Company, Chicago.

Special Prizes—J. H. Coy, Flambeau Paper Company, Chicago; Tom Harris, Southwest Tablet Company, Dallas, Tex.

Good-Fellowship Prizes—P. H. Oliver, Hobart Paper Company, Chicago; E. G. Bennett, Escanaba Paper Company, Escanaba, Mich.; Ralph Cuyler, Whitaker Paper Company, Chicago; Al. Anders, Bradner Smith & Company, Chicago; W. A. Munro, Flambeau Paper Company, Park Falls, Wis.; Bob Seybold, Seybold Paper Company, Cincinnati, Ohio; W. L. Shea, Bradner Smith & Co., Chicago; Geo. Mueller, Midland Paper Company, Chicago; A. A. McDonough, Hobart Paper Company, Chicago; Eric Rohrer, Bermingham & Prosser Company, Chicago; John Loughrin, Messinger Paper Company, Chicago; P. H. Barkley, C. L. Barkley & Co., Chicago; Roy Weeks, Hobart Paper Company, Chicago; Robert H. Roueche, Mead Sales Company, Chicago.

An interesting and informative folder describing "Hyfect" the new book paper manufactured by the Kimberly-Clark Corporation, is being distributed locally through the offices at 8 S. Michigan. Printed on Hyfect, English Finish, 25 x 38-70 pound, the folder develops the theme that modern merchandising demands a modern paper which will reproduce both sharply and gracefully. Interesting halftones and a generous use of blue and orange colors adds to the outstanding interest of the folder.

Government Paper Bids and Awards

WASHINGTON, D. C., October 13, 1937—The following recent paper awards have been announced by the Government Printing Office.

Barton, Duer & Koch will furnish 40,000 pounds of rope manila paper at 7.75 cents per pound and Reese & Reese will furnish 15,000 sheets of white cloth lined paper, 24 x 36 at $93.09 per M sheets. Bids for these items were received on September 29.

The National Pulp and Paper Company will furnish 250,000 pounds of newsprint paper in 48 inch rolls, at 2.5 cents, bids for which were received on September 22.

The Mathers-Lamm Paper Company will furnish 15,000 pounds (21,000 sheets) of 22 x 32 marble grained lined board at 4.53 cents per pound and Walker, Goulard & Plehn Company will furnish 2,000 sheets of 26 x 36 brown cloth lined cover paper at $130 per M sheets. Bids for these items were received on September 20.

Reese & Reese will furnish 36,000 pounds of No. 2 kraft wrapping paper at 4.14 cents per pound and the R. P. Andrews Paper Company will furnish 6,250 pounds (50,000 sheets) of 20 x 25, 50 per cent rag, blue antique cover paper at 11.97 cents. Bids for these items were received on September 15.

The Paper Corporation of the U. S. will furnish 100,000 pounds of supercalendered book paper in 38 inch rolls at 5.74 cents per pound and the Whitaker Paper Company will furnish 5,000 pounds of rope manila paper in 48 inch rolls at 8.33 cents per pound. Also Reese & Reese, will furnish 36,000 pounds (360,000 sheets) of 24 x 36 No. 2 kraft wrapping paper at 4.41 cents per pound. Bids for these items were received on September 8.

The Paper Corporation of the U. S. will furnish 465,000 pounds of supercalendered book paper in 38 inch rolls at 5.74 cents per pound and Barton, Duer & Koch Paper Company will furnish 7,351 pounds (17,400 sheets) of 38 x 52, 50 per cent rag, white ledger paper at 11.99 cents. Bids for both of these items were received on September 3.

L. Hyman & Sons will furnish 8,000 pounds (40,000 sheets) of 22½ x 28½ white tag board at 8 cents per pound. The Stanford Paper Company will furnish 6,700 pounds (50,000 sheets) of 38 x 48 blue M. F. book paper at 7.36 cents per pound and Barton, Duer & Koch Paper Company will furnish 24,500 sheets of 22¼ x 42 white car sign board at $34.41 per M sheets. Bids for all of these items were received on September 1.

The R. P. Andrews Paper Company will furnish 37,280 pounds (173,000 sheets) of 50 per cent rag white ledger paper, at 11.25 cents per pound, bids for which were received on August 25.

The Andrews Company will also furnish 20,000 pounds of manila cardboard at 4.6 cents per pound and 5,000 pounds of 22 x 28 hard rolled binder's board at 5.3 cents per pound. Bids for these items were received on August 18.

Reese & Reese will furnish 10,000 sheets of 24 x 36 white cloth lined paper at $110.80 per M sheets, bids for which were received on August 11.

The Printing Office has received the following bids for 3,000 pounds (50,000 sheets) of No. 2 kraft wrapping paper; Whitaker Paper Company, 4.65 cents per pound; and R. P. Andrews Paper Company, 5.2 cents.

For 5,000 pounds of No. 1 gummed kraft paper: L. Hyman & Sons, 13.5 cents per pound; Whitaker Paper Company, 8.83 cents; Resolute Paper Products Corp., 9.475 cents less 2 per cent; Walker, Goulard Plehn Company, 9.82 cents less 2 per cent; Mathers-Lamm Paper Company, 9.55 and 10.8 cents; Reese & Reese, 9.95 cents; Cauthorne Paper Company, 10.24 cents; Virginia Paper Company, 12 cents; Barton, Duer & Koch Paper Company, 11 cents; R. P. Andrews Paper Company, 10.8 cents; and Enterprise Paper Company, 9.555 cents less 1 per cent.

Wrought Iron Industrial Tanks

A 32-page bulletin entitled, "Wrought Iron in Tank Construction," has been issued by the A. M. Byers Company, of Pittsburgh, Pa. The catalogue describes the merits of bolted iron tanks for various purposes by industrial plants.

Financial News of Pulp and Paper Industry

Reorganization of Sherman Paper Co. Permitted By Federal Court—Bird and Son Issue Stock for Voting Trust Certificates — Prince Rupert Mill Granted Tax Concessions — A. P. W. Paper Co. Reports Net Profit.

New York Stock Exchange

High, Low and Last for the Week Ending October 13, 1937

	High	Low	Last
A. P. W.	4⅝	4⅝	4⅝
Armstrong Cork Co.	44	37	37
Celotex Corp.	30¾	26½	27
Celotex Corp., pf.	64	62	62½
Certain-Teed Products Corp.	8⅛	7	7⅛
Certain-Teed Products Corp., pf.	34⅛	31⅝	31⅝
Champion Paper & Fibre Co.	43	41⅞	42
Champion Paper & Fibre Co., pf.	107½	107½	107½
Congoleum-Nairn Co.	28⅛	25¾	25⅝
Container Corp. of Amer.	20½	16¼	17⅜
Centinental-Diamond Fibre Co.	13¼	11⅛	11⅞
Crown-Zellerbach Co.	15⅞	12¾	13⅜
Flintkote Co.	18¾	14½	15⅞
Robert Gair	7⅜	5⅜	5⅞
Robert Gair, pf.	28½	28	28
International Paper & Power	15⅜	11⅞	13⅜
International Paper & Power, pf.	61½	50	54
Johns-Manville Corp.	94½	85	88
Johns-Manville Corp., pf.	125	125	125
Kimberly-Clark Corp.	29½	28½	28½
MacAndrews & Forbes	28½	28½	28½
Masonite Corp.	34	31½	33
Mead Corp.	20½	17½	17½
Mead Corp., pf.	85½	85½	85
Paraffine Companies, Inc.	46¼	45	46
Ruberoid Co.	23	20	20
Scott Paper Co.	39½	38¾	39¼
Sutherland Paper Co.	24¼	21	21
Union Bag & Paper Corp.	15⅛	13½	14½
United Paperboard Co.	6½	5	5
U. S. Gypsum Co.	75	70	70
U. S. Gypsum Co., pf.	158¼	158¼	158¼

New York Curb Exchange

High, Low and Last for the Week Ending October 13, 1937

	High	Low	Last
American Box Board Co.	13	12½	12½
Brown Co., pf.	56	49½	50
Great Northern Paper Co.	35	33	33
St. Regis Paper Co.	5⅛	4	4
St. Regis Paper Co., pf.	90⅛	90	90
Taggart Corp.	6½	5½	5½

Sherman Paper Co. May Reorganize

[FROM OUR REGULAR CORRESPONDENT]

GREAT BEND, N. Y., October 11, 1937. — An order was signed this week by Federal Court Judge Bryant permitting a reorganization of the Sherman Paper Company under which creditors will be prevented from enforcing payment of their claims pending trial of the plan. It is understood that the concern is solvent but market conditions have made it impossible to meet current obligations and it is hoped to gradually work out of these conditions. If the plan meets with success the company will continue the manufacture of paper in its mills at Great Bend, Felts Mills and Lefebvre. The reorganization involves a change in the directorate which calls for the retention of J. V. Baron, vice-president, O. P. Barnes, secretary, and the addition of E. W. Brockway, D. M. Cosgrove and J. R. Wilmot. It is said that Mr. Brockway will be made superintendent. Mrs. Alice T. Sherman, of Watertown, is president of the concern which was organized nearly half a century ago as the Taggart Paper Company. After the death of the late George Sherman the name was changed to the Sherman Paper Company. In the certiorari proceedings recently started in the town of Champion for a court review of the 1937 assessments the company hopes to secure a substantial reduction in valuations of $90,000 on the mill, $46,200 on one-half the water power and dam, and $4,250 on railroad siding and switches.

Bird & Son Issue Stock

BOSTON, Mass., October 11, 1937. — To certificate holders of common stock of Bird & Son, Inc., manufacturers of roofing paper board, floor covering and paper, were issued on October 9, for each voting trust certificate for 100 shares, 100 shares of no par common stock of a stated value of $5 a share and five shares of new $100 par 5 per cent preferred stock. The voting trust expired on October 9.

The issuance of stock took place in accordance with the approval by the directors of a plan of capital readjustment to reduce the stated value of 600,000 common shares from $10 to $5 a share, or from $6,000,000 to $3,000,000 and allow for issuance of 30,000 shares of new cumulative preferred stocks to common stockholders.

The authorized amount of preferred stock will be $5,000,000, the remaining $2,000,000 to be issuable at the discretion of the directors.

Prince Rupert Mill Gets Concessions

VANCOUVER, B. C., October 9, 1937—Another barrier leading to the establishment of the proposed $8,000,000 pulp mill at Prince Rupert, B. C., has been hurdled with the property owners in the district voting favorably to the city's proposal to grant tax concessions for the erection of the plant.

Frank L. Buckley, 1030 Hamilton street, Vancouver, B. C., local representative of financial interests in New York, San Francisco, and eastern Canadian points, backing the project, is at present in the East. He is investigating the technical aspects of the undertaking with regard to the most suitable site for the bleached sulphite pulp plant, which will have a capacity of 250 tons daily, or 75,000 tons per year. Construction will start as soon as the engineers have completed their surveys, already well advanced. About 18 months will be required to erect the plant, which is to be largely of steel and concrete construction.

A. P. W. Paper Co. Shows Profit

Report of A. P. W. Paper Company, Inc., for fiscal year ended June 30, shows net profit of $53,590 after charges, equal to 34 cents a share of common stock. This compares with net loss of $77,062 in preceding year.

Current assets as of June 30, including $144,181 cash amounted to $1,050,370 and current liabilities were $403,715 compared with cash of $155,905, current assets of $1,022,400 and current liabilities of $384,130 on June 30, 1936.

Balance sheet as of June 30, shows total assets of $6,007,711 and earned surplus of $338,131, compared with $7,242,878 and $461,145 respectively, on June 30, 1936. Funded debt amounted to $3,530,912 against $3,448,312.

Newsprint Price of $47.50 Per Ton Expected

Forthcoming Announcement By Great Northern Considered By Export Association To Affect Small Per Cent of Canadian Production — Pulp Mill For Terrace Bay — Buys Pulpwood From Farmers — Other News

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., October 11, 1937—When Great Northern Paper Company announces its newsprint price for 1938, it will not be of such world-shaking importance to the whole industry as it was when the company a year ago announced its price for 1937. At that time the industry as a whole was hoping for a price of from $45 to $47 a ton and $42.50 a ton was a distinct disappointment to most producers. Because of old contracts whereby producers gave publishers the benefit of whatever might be the lowest price quoted, that announcement made $42.50 a ton the price for the whole industry. Great Northern has cheap production and not much financial overhead to consider. If it quotes $47.50 a ton for newsprint within a few days, as some expect, it will be easy for it to function at that price. It will be a matter of importance to its customers but the Canadian Newsprint Export Manufacturers' Association recently stated that the declaration of such a price would affect only five per cent of Canadian production.

In other words, the industry as a whole is now operating under contracts which do not include a clause which makes the lowest price the price for the whole industry. The price of $47.50 would be $2.50 a ton under those named in contracts of International Paper and most other Canadian producers. The latter did not wait for Great Northern this year and its price will be interesting mainly to publishers because it will give them an argument against further increases if producers should consider another boost.

It will not affect the newsprint situation generally in Canada since it will not operate in the open market. The Daily News has heretofore been securing its newsprint supply largely from the International Paper Co. While the Baie Comeau mill will naturally cause a switch in the supply for the New York Daily News, still it is anticipated that by next year the New York paper will have to purchase a large amount of paper over and above that received from Baie Comeau in order to meet its own requirements.

Pulp Mill for Terrace Bay

Arrangements for the construction of a 100-ton sulphite pulp mill at Terrace Bay on Lake Superior, five miles east of Schrieber, Ont., have been completed by the Ontario Government, with a company presumed to be Long Lac Paper Co., a subsidiary of Kimberly Clark Paper Co., of Neenah, Wis. The new sulphite mill is expected to employ 4,000 men. The quantity of timber the company will be allowed to export is limited. Some months ago the company received timber cutting rights in Long Lac area and permission to ship pulpwood to United States mills.

Buy Pulpwood From Farmers

The Hammermill Paper Co., of Erie, Pa., have purchased 4,500 cords of poplar pulpwood from farmers of the Thunder Bay district of Ontario and have stored it in a water lot at the south end of Port Arthur. In addition to the quantity of wood, the company shipped out during the past season some 8,000 cords. John Boswell, of the Hammerville company, said that his concern had been buying and shipping wood from the Thunder Bay district for upwards of 30 years and about 180 farmers had benefitted from the operations of the company. Woods activities generally started in May and continued till about the middle of September.

Hinde & Dauch Co. Doing Well

L. F. Winchell, vice-president and general manager of Hinde & Dauch Paper Co., of Canada, in a statement to the company's shareholders says that the demand for products during the third quarter tapered off somewhat as compared with the demand during the first half of the year. "Nevertheless," the statement says "our production totals for the first nine months are well ahead of any we have accomplished in the past, and the present prospects are that during the final quarter we shall lose none of the increase already made. Raw material prices continue to firm at the higher average levels and on some lines (certain grades of pulp in particular) further advances have been made and the immediate prospect is that there will be no easing off for some time to come. This is undoubtedly indicative of two things—the necessity for meeting higher production costs and the general confidence in the future that is held within the industry. The construction of our new boiler room is under way, and it is expected to be in economical operation before the year-end. Deliveries on other auxiliary orders (orders for which were placed nearly a year ago now) are beginning to be made and installation will be pursued with all despatch possible. We should enter 1938 in the best production position in our history. Through the processing changes recently made, new peaks in production are already being reached and on a basis that can be sustained."

Ontario Paper Speeds Plans

Work on the Ontario Paper Co.'s newsprint development at Baie Comeau has progressed faster than anticipated and it is now expected that the new mill will go into operation next March instead of June 1 as originally planned. Machinery and mill equipment are now being installed. When complete the Baie Comeau mill will produce 350 tons of newsprint a day and its entire output will go to the New York Daily News, which, together with the Chicago Tribune, owns the Ontario Paper Co.

Keith Paper Co. Signs With Brotherhood

[FROM OUR REGULAR CORRESPONDENT]

TURNERS FALLS, Mass., October 12, 1937. — The Keith Paper Company has signed an agreement with the International Brotherhood of Papermakers affecting about 300 employees. A raise of about six cents an hour is included in the agreement.

THEY LAST 10 times AS LONG!

Actual service in pulp and paper mills has proved the outstanding value of these valves. They have outlasted the all-iron valves 10 to 1 . . . and more . . . in soda and sulphate mills. Small wonder that pulp and paper mill operators prefer Walworth Fig. 725FS Gate Valves and Fig 928FS Swing Check Valves.

Fig. 725FS and Fig. 928FS are special iron alloy valves. They are part of the complete line of valves which Walworth makes to assure "the right valve for each and every service." If you want long valve life, positive control and low maintenance, specify Walworth.

GATE VALVES

Fig. 725FS OS&Y Gate Valve

Send for Circular No. 75, Paper Mill Division, Walworth Company, 60 East 42nd Street, New York, N. Y.

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PhiladelphiaP.T.A.PlansEducationalCourse

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PHILADELPHIA, Pa., October 11, 1937. — Widespread interest is manifested in the announcement recently sent out from the Paper Trade Association of Philadelphia, over the signature of Wm. A. Hentz, Chairman of the Educational Committee, regarding the tentative schedule of the proposed Course of the Paper Trade School for the year 1937-38.

It will be remembered that the Paper Trade Association of Philadelphia conducted a similar course last winter under the direction of Ormond Freile, and Doris E. Lewis, president and executive secretary, respectively, of the Association. At that time it was the intention of President Freile to limit the class to fifty students, but exactly twice that number applied for registration. Mr. Freile was then confronted with the task of either having to have two classes of fifty students in each class, or augmenting his class of fifty to one hundred. President Freile decided that no one should be disappointed, and made arrangements for the one hundred who had enrolled, so that all could participate in the various lectures and visitation that were included in the course.

So successful was this Course in Paper Study last year that the Board of Governors of the Paper Trade Association of Philadelphia has decided to conduct a course along the same lines this year. The Course will include twelve sessions and will deal in paper from start to finish. The tentative schedule is as follows: On November 12 Lecture No. 1—Opening Address; Welcome to Class and Object of Course; History of Paper Making; Organization of the Paper Industry and the Paper Merchant; Manufacture of Pulps. December 2, Lecture No. 2, a visit to a prominent paper mill. December 9, Lecture No. 3, Taking The Clock Apart. December 16, Lecture No. 4, Through The Finishing Room. January 6, 1938, Lecture No. 5, The Romance of Wrappings. January 6, Lecture No. 6, Moving Pictures of Paper Making. January 13, Lecture No. 7, Sales Ammunition, No. 1—which will comprise Blottings, Cardboards, News Family and Uncoated Book. January 27, Lecture No. 8, Sales Ammunition No. 2, Coated Paper and Why, Cover Paper and Writings. February 3, Lecture No. 9, Science and Ethics—The Laboratory and Its Relationship to Paper; Credit Bureau Operation; Market Relations and Quiz Papers. February 10, Lecture No. 10, The Romance of Printing Paper. February 17, Lecture No. 11, How to Win Friends and Influence People. March 3, Lecture No. 12, The Art of Paper Salesmanship; Closing Address and awarding of diplomas.

Classes in this course are open only to salesmen or members of the staff employed by members in good standing of the Paper Trade Association of Philadelphia. Tuition will be $7.50 for the complete course of lectures, which lectures will be held from 7 to 9 P. M. on the dates specified above—(the meeting place will be announced later.) Students must be enrolled by their companies, and enrollments should be accompanied by a check to the order of the Paper Trade Association of Philadelphia. All correspondence relating to classes and tuition fees should be addressed to Mrs. Doris E. Lewis, Executive Secretary, Paper Trade Association of Philadelphia, 355 Drexel Bldg., Philadelphia, Pa.

Paper Merchants Issue Catalogue

Paper Merchants, Inc., Philadelphia, under date of October 2nd, issued a new and complete 180-page Price Catalog, consisting of a loose-leaf book, subdivided into twelve classifications of paper, envelopes, and cardboard.

George Predmore Nuptials

Virginia Lucy Predmore, daughter of Winfield Predmore, president of Paper Merhants, Inc., one of Philadelphia's leading wholesale paper houses, was married in Francis Child M. E. Church, West Collingswood, N. J., on Thursday evening, October 7th, to Mr. Robert A. George, son of Mr. and Mrs. A. George of West Collingswood. A reception at the home of the bride followed the wedding. After their return from a wedding trip to Canada, they will reside at their new home in Oaklyn, N. J.

Denies Review of Newsprint Case

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., October 13, 1937. — The United States Supreme Court on Monday of this week refused to review a lower court decision in connection with a standard newsprint case.

In this case, No. 233, of F. W. Myers & Co. who imported newsprint paper for the *Christian Science Monitor*, there had been several decisions and the case is of considerable interest to the paper industry.

The *Monitor* had a 36 pound newsprint paper imported into the United States for use in its magazine section. According to the government definition standard newsprint is 32 pounds. A duty was assessed on the importation. The case was taken to the United States Customs Court which held that it was free of duty. This decision was appealed to the Court of Customs and Patent Appeals which held that the importation was dutiable. The publishers then asked the Supreme Court to review the decision of the lower court. This has been refused.

G. T. Standbridge Succeeds Father

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., October 11, 1937—George T. Standbridge, Jr., is to represent in Boston the Champion Paper and Fibre Company, of Hamilton, Ohio, succeeding his father, who died recently. Mr. Standbridge will continue in the office at 201 Devonshire street.

Rise in Tonnage Not As Large As Expected

Chicago Reports That Slowness Has Invaded Virtually All Grades of Paper — Waste Papers Continue Comparatively Slow — Chicago Power Show Attracts Large Number of Technicians From the Paper Industry.

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., October 11, 1937—While there is every reason to believe that local market conditions will work themselves out satisfactorily, there are a number of points which are not conducive to optimism. While tonnage has increased somewhat during the fall season, the rise has not been as sharp as expected. The slowness has invaded virtually all grades in certain markets, particularly sulphite. Instabilities in certain grades of this product and in certain coated enamels have been reported by local firms. The kraft market is little changed with the discount situation reported as having a worrisome cast. Book and cover papers showed a continued comparative slowness in demand though the market itself was characterized as holding up well. Bonds and ledgers in most grades were little changed during the week. Waste paper continued comparatively weak with mills showing little or no interest in the supply on hand.

Power Show Largely Attended

The Chicago Power Show, gigantic panorama of what is new in the power industry, took the spotlight in Chicago this week. Exhibits of 153 companies from 31 states were the highlights of the program which was carried on in the International Theatre. It was estimated that more than 10,000 buyers and technicians, many of them from the paper manufacturing industry, attended the affair which gave special prominence to the 40th anniversary of the introduction of Diesel power in the United States. Many manufacturers exhibited the latest types of Diesel generating equipment and other applications of Diesel power.

Many of the displays featured exhibits of air conditioning equipment to make industrial plants more helpful and the same group of exhibits also featured developments in industrial safety equipment.

Devices for turning waste heat into power, with particular application to the paper and pulp industry which uses about 10 million tons of coal annually, were easily the big feature as far as the paper industry was concerned. Cutting machines and finishing machine parts, shell condensers and other power machinery also got a considerable amount of attention. Of historical interest was the wooden model made by Paul Revere from which he built the first copper rolling mill in America in 1801. Many of his letters and drawings of machinery were a part of the same exhibit.

Annual Prize Winners

As a pleasant aftermath of a successful summer season, the midwest division of the Salesmens Association of the Paper Industry now gives publicity to the prize winners at the final annual outing held at Olympia Fields Country Club on September 23. The event drew many guests attending the N.P.T.A. meeting in Chicago and a total of 175 members and guests enjoyed the lunch, golf and dinner. All arrangements were under the capable direction of R. H. Burnett, chairman of the golf committee.

Blind Bogey, Vern Field, Dwight Brothers Paper Company, Chicago.

2nd Blind Bogey, Frank Prentiss, Hollingsworth & Whitney Company, Chicago.

Low Gross, Robert Cochran, Orchard Paper Company, St. Louis.

2nd Low Gross, Gene Hammes, Butler Paper Corporation, Chicago.

Low Net (17 and Under), E. M. Vana, International Tag and Sales Book Company, Chicago.

2nd Net (17 and Under), John Manske, Nekoosa-Edwards Paper Company, Chicago.

3rd Net (17 and Under), W. A. Munro, Flambeau Paper Company, Park Falls, Wisc.

4th Net (17 and ties), A. E. Anderson, Bryant Paper Company, Chicago; R. E. Harbison, International Paper Company, Chicago; R. C. Johnson, Northwest Paper Company, Chicago.

Low Net (18 and over), J. A. Wesley, Rhinelander Paper Company, Rhinelander, Wis.

2nd Low Net (18 and over), J. T. Burruss, Albemarle Paper Company, Chicago.

3rd low net—(ties) Harold R. Knott, Eastern Manufacturing Company, Chicago; C. B. Engh, Dwight Brothers Paper Company, Chicago; G. G. Olson, American Writing Paper Corporation, Chicago; F. M. Stephens, Sorg Paper Company, Chicago; C. A. Beal, Herald Argus, LaPorte, Ind.; H. R. Telfer, Detroit Sulphite Pulp and Paper Company, Detroit, Mich:

Low Putts (1st nine), Leonard Kuehl, Flambeau Paper Company, Park Falls, Wis.

2nd Putts (1st nine), P. H. Oliver, Hobart Paper Company, Chicago.

Low Putts (2nd 9) (ties), L. H. Sisson, Racquette River Paper Company, Cincinnati; A. V. Pleasance, Montgomery Ward Company, Chicago; Joe Heyer, Cherry River Paper Company, Chicago.

Low Gross Par 5's, A. G. Shennon, International Tag and Sales Book Company, Chicago.

2nd Low Gross 5's, W. B. Moore, Brown Company, Chicago; Graham Jackson, Moser Paper Company, Chicago.

Low Gross Par 3's, Bob Seybold, Seybold Paper Company, Cincinnati.

2nd Low Gross Par 3's, A. J. Austin, Moser Paper Company, Chicago; Fred W. Cole, Fraser Paper, Limited, New York City.

Low Net Foursome, W. J. LaCrosse, American Writing Paper Corporation, Chicago; Ed. Beimfohr, Crocker-McElwain Company, Chicago; Don Cuyler, Whitaker Paper Company, Detroit; G. G. Olson, American Writing Paper Corporation, Chicago.

2nd Low Net Foursome, Herman Berge, Appleton Coated Paper Company, Chicago; Fred Huff, Central Tag Company, Chicago; A. G. Shennon, International Tag and Sales Book Company, Chicago; Ed.

Vana, International Tag and Sales Book Company, Chicago.

Low Putt Foursome, Geo. Mueller, Midland Paper Company, Div., Chicago; A. J. Austin, Moser Paper Company, Chicago; Bert Tucker, Parker, Thomas & Tucker Paper Company, Chicago; Hugh Brower, Wytek Sales Company, Chicago.

2nd Low Putt, Ham. Vose, Berkshire Papers, Inc., Chicago; Fred Cole, Fraser Paper, Limited, New York City; F. T. Webb, Sun Life Insurance Company, Montreal, Que.; A. V. Pleasance, Montgomery Ward Company, Chicago.

High Gross Foursome, George Clark, Bradner Smith & Co., Chicago, Harold Pfister, Bradner Smith & Co., Chicago; Frank Foley Blandin Paper Company, Chicago; J. T. Daly, Wrenn Paper Company, Chicago.

2nd High Gross Foursome, John Loughrin, Messinger Paper Company, Chicago; Louis Ellis, Northwest Paper Company, Chicago; Cliff Strong, International Paper Company, Chicago; Joe Rye, International Paper Company, Chicago.

Special Prizes—J. H. Coy, Flambeau Paper Company, Chicago; Tom Harris, Southwest Tablet Company, Dallas, Tex.

Good-Fellowship Prizes—P. H. Oliver, Hobart Paper Company, Chicago; E. G. Bennett, Escanaba Paper Company, Escanaba, Mich.; Ralph Cuyler, Whitaker Paper Company, Chicago; Al. Anders, Bradner Smith & Company, Chicago; W. A. Munro, Flambeau Paper Company, Park Falls, Wis.; Bob Seybold, Seybold Paper Company, Cincinnati, Ohio; W. L. Shea, Bradner Smith & Co., Chicago; Geo. Mueller, Midland Paper Company, Chicago; A. A. McDonough, Hobart Paper Company, Chicago; Eric Rohrer, Bermingham & Prosser Company, Chicago; John Loughrin, Messinger Paper Company, Chicago; P. H. Barkley, C. L. Barkley & Co., Chicago; Roy Weeks, Hobart Paper Company, Chicago; Robert H. Roueche, Mead Sales Company, Chicago.

An interesting and informative folder describing "Hyfect" the new book paper manufactured by the Kimberly-Clark Corporation, is being distributed locally through the offices at 8 S. Michigan. Printed on Hyfect, English Finish, 25 x 38-70 pound, the folder develops the theme that modern merchandising demands a modern paper which will reproduce both sharply and gracefully. Interesting halftones and a generous use of blue and orange colors adds to the outstanding interest of the folder.

Government Paper Bids and Awards

WASHINGTON, D. C., October 13, 1937—The following recent paper awards have been announced by the Government Printing Office.

Barton, Duer & Koch will furnish 40,000 pounds of rope manila paper at 7.75 cents per pound and Reese & Reese will furnish 15,000 sheets of white cloth lined paper, 24 x 36 at $93.09 per M sheets. Bids for these items were received on September 29.

The National Pulp and Paper Company will furnish 250,000 pounds of newsprint paper in 48 inch rolls, at 2.5 cents, bids for which were received on September 22.

The Mathers-Lamm Paper Company will furnish 15,000 pounds (21,000 sheets) of 22 x 32 marble grained lined board at 4.53 cents per pound and Walker, Goulard & Plehn Company will furnish 2,000 sheets of 24 x 36 brown cloth lined cover paper at $130 per M sheets. Bids for these items were received on September 20.

Reese & Reese will furnish 36,000 pounds of No. 2 kraft wrapping paper at 4.14 cents per pound and the R. P. Andrews Paper Company will furnish 6,250 pounds (50,000 sheets) of 20 x 25, 50 per cent rag, blue antique cover paper at 11.97 cents. Bids for these items were received on September 15.

The Paper Corporation of the U. S. will furnish 100,000 pounds of supercalendered book paper in 38 inch rolls at 5.74 cents per pound and the Whitaker Paper Company will furnish 5,000 pounds of rope manila paper in 48 inch rolls at 8.33 cents per pound. Also Reese & Reese, will furnish 36,000 pounds (360,000 sheets) of 24 x 36 No. 2 kraft wrapping paper at 4.41 cents per pound. Bids for these items were received on September 8.

The Paper Corporation of the U. S. will furnish 465,000 pounds of supercalendered book paper in 38 inch rolls at 5.74 cents per pound and Barton, Duer & Koch Paper Company will furnish 7,351 pounds (17,400 sheets) of 38 x 52, 50 per cent rag, white ledger paper at 11.99 cents. Bids for both of these items were received on September 3.

L. Hyman & Sons will furnish 8,000 pounds (40,000 sheets) of 22½ x 28½ white tag board at 8 cents per pound. The Stanford Paper Company will furnish 6,700 pounds (50,000 sheets) of 38 x 48 blue M. F. book paper at 7.36 cents per pound and Barton, Duer & Koch Paper Company will furnish 24,500 sheets of 22¼ x 42 white car sign board at $34.41 per M sheets. Bids for all of these items were received on September 1.

The R. P. Andrews Paper Company will furnish 37,280 pounds (173,000 sheets) of 50 per cent rag white ledger paper, at 11.25 cents per pound, bids for which were received on August 25.

The Andrews Company will also furnish 20,000 pounds of manila cardboard at 4.6 cents per pound and 5,000 pounds of 22 x 28 hard rolled binder's board at 5.3 cents per pound. Bids for these items were received on August 18.

Reese & Reese will furnish 10,000 sheets of 24 x 36 white cloth lined paper at $110.80 per M sheets, bids for which were received on August 11.

The Printing Office has received the following bids for 3,000 pounds (50,000 sheets) of No. 2 kraft wrapping paper; Whitaker Paper Company, 4.65 cents per pound; and R. P. Andrews Paper Company, 5.2 cents.

For 5,000 pounds of No. 1 gummed kraft paper: L. Hyman & Sons, 13.5 cents per pound; Whitaker Paper Company, 8.83 cents; Resolute Paper Products Corp., 9.475 cents less 2 per cent; Walker, Goulard Plehn Company, 9.82 cents less 2 per cent; Mathers-Lamm Paper Company, 9.55 and 10.8 cents; Reese & Reese, 9.95 cents; Cauthorne Paper Company, 10.24 cents; Virginia Paper Company, 12 cents; Barton, Duer & Koch Paper Company, 11 cents; R. P. Andrews Paper Company, 10.8 cents; and Enterprise Paper Company, 9.555 cents less 1 per cent.

Wrought Iron Industrial Tanks

A 32-page bulletin entitled, "Wrought Iron in Tank Construction," has been issued by the A. M. Byers Company, of Pittsburgh, Pa. The catalogue describes the merits of bolted iron tanks for various purposes by industrial plants.

Financial News of Pulp and Paper Industry

Reorganization of Sherman Paper Co. Permitted By Federal Court—Bird and Son Issue Stock for Voting Trust Certificates — Prince Rupert Mill Granted Tax Concessions — A. P. W. Paper Co. Reports Net Profit.

New York Stock Exchange

High, Low and Last for the Week Ending October 13, 1937

	High	Low	Last
A. P. W.	4⅜	4⅜	4⅜
Armstrong Cork Co.	44	37	37
Celotex Corp.	30¾	26½	27
Celotex Corp., pf.	64	62	62½
Certain-Teed Products Corp.	8⅛	7	7⅛
Certain-Teed Products Corp., pf.	34⅛	31⅜	31⅜
Champion Paper & Fibre Co.	43	41⅞	42
Champion Paper & Fibre Co., pf.	107½	107½	107½
Congoleum-Nairn Co.	28⅛	25¾	25⅛
Container Corp. of Amer.	20½	16¼	17⅜
Centinental-Diamond Fibre Co.	13¼	11⅛	11⅞
Crown-Zellerbach Co.	15⅞	12⅜	13⅜
Flintkote Co.	18¾	14½	15⅞
Robert Gair	7⅜	5⅛	5⅞
Robert Gair, pf.	28½	28	28
International Paper & Power	15⅞	11⅞	13⅜
International Paper & Power, pf.	61½	50	54
Johns-Manville Corp.	94½	85	88
Johns-Manville Corp., pf.	125	125	125
Kimberly-Clark Corp.	29½	28½	28½
MacAndrews & Forbes	28½	28½	28½
Masonite Corp.	34	31½	33
Mead Corp.	20¼	17½	17½
Mead Corp., pf.	85½	85½	85
Paraffine Companies, Inc.	46¼	45	46
Ruberoid Co.	23	20	20
Scott Paper Co.	39½	38¼	39¼
Sutherland Paper Co.	24¼	21	21
Union Bag & Paper Corp.	15½	13½	14½
United Paperboard Co.	6½	5	5
U. S. Gypsum Co.	75	70	70
U. S. Gypsum Co., pf.	158¼	158¼	158¼

New York Curb Exchange

High, Low and Last for the Week Ending October 13, 1937

	High	Low	Last
American Box Board Co.	13	12½	12½
Brown Co., pf.	56	49½	50
Great Northern Paper Co.	35	33	33
St. Regis Paper Co.	5¼	4	4
St. Regis Paper Co., pf.	90½	90	90
Taggart Corp.	6½	5½	5½

Sherman Paper Co. May Reorganize

[FROM OUR REGULAR CORRESPONDENT]

GREAT BEND, N. Y., October 11, 1937. — An order was signed this week by Federal Court Judge Bryant permitting a reorganization of the Sherman Paper Company under which creditors will be prevented from enforcing payment of their claims pending trial of the plan. It is understood that the concern is solvent but market conditions have made it impossible to meet current obligations and it is hoped to gradually work out of these conditions. If the plan meets with success the company will continue the manufacture of paper in its mills at Great Bend, Felts Mills and Lefebvre. The reorganization involves a change in the directorate which calls for the retention of J. V. Baron, vice-president, O. P. Barnes, secretary, and the addition of E. W. Brockway, D. M. Cosgrove and J. R. Wilmot. It is said that Mr. Brockway will be made superintendent. Mrs. Alice T. Sherman, of Watertown, is president of the concern which was organized nearly half a century ago as the Taggart Paper Company. After the death of the late George Sherman the name was changed to the Sherman Paper Company. In the certiorari proceedings recently started in the town of Champion for a court review of the 1937 assessments the company hopes to secure a substantial reduction in valuations of $90,000 on the mill, $46,200 on one-half the water power and dam, and $4,250 on railroad siding and switches.

Bird & Son Issue Stock

BOSTON, Mass., October 11, 1937. — To certificate holders of common stock of Bird & Son, Inc., manufacturers of roofing paper board, floor covering and paper, were issued on October 9, for each voting trust certificate for 100 shares, 100 shares of no par common stock of a stated value of $5 a share and five shares of new $100 par 5 per cent preferred stock. The voting trust expired on October 9.

The issuance of stock took place in accordance with the approval by the directors of a plan of capital readjustment to reduce the stated value of 600,000 common shares from $10 to $5 a share, or from $6,000,000 to $3,000,000 and allow for issuance of 30,000 shares of new cumulative preferred stocks to common stockholders.

The authorized amount of preferred stock will be $5,000,000, the remaining $2,000,000 to be issuable at the discretion of the directors.

Prince Rupert Mill Gets Concessions

VANCOUVER, B. C., October 9, 1937—Another barrier leading to the establishment of the proposed $8,000,000 pulp mill at Prince Rupert, B. C., has been hurdled with the property owners in the district voting favorably to the city's proposal to grant tax concessions for the erection of the plant.

Frank L. Buckley, 1030 Hamilton street, Vancouver, B. C., local representative of financial interests in New York, San Francisco, and eastern Canadian points, backing the project, is at present in the East. He is investigating the technical aspects of the undertaking with regard to the most suitable site for the bleached sulphite pulp plant, which will have a capacity of 250 tons daily, or 75,000 tons per year. Construction will start as soon as the engineers have completed their surveys, already well advanced. About 18 months will be required to erect the plant, which is to be largely of steel and concrete construction.

A. P. W. Paper Co. Shows Profit

Report of A. P. W. Paper Company, Inc., for fiscal year ended June 30, shows net profit of $53,590 after charges, equal to 34 cents a share of common stock. This compares with net loss of $77,062 in preceding year.

Current assets as of June 30, including $144,181 cash amounted to $1,050,370 and current liabilities were $403,715 compared with cash of $155,905, current assets of $1,022,400 and current liabilities of $384,130 on June 30, 1936.

Balance sheet as of June 30, shows total assets of $6,007,711 and earned surplus of $338,131, compared with $7,242,878 and $461,145 respectively, on June 30, 1936. Funded debt amounted to $3,530,912 against $3,448,312.

Drier Drainage on Paper Machines*

By A. E. Broughton[1]

"A chain is only as strong as its weakest link" and the correct drying on a paper or board machine may be likened to a chain of correct conditions surrounding the machine itself. Drainage, machine ventilation, variation in machine speed, and variations in the quality or quantity of the steam may be likened to the four main links. Weaknesses in any one of the above four factors cause the little conditions against which the paper makers are constantly struggling. In this article we will confine ourselves to drainage, possible correction of cockle, and variations in the steam supply.

The proper drainage of a paper or board machine is probably the largest factor governing economy of operation and capacity of the machine to dry. It is really a peculiarly simple problem but one so simple, it has been quite difficult to understand. Just because one cannot see or feel inside of a dryer in operation, has given birth to hosts of empirical ideas of just what is taking place and each one of these ideas requires a system or scheme to solve the supposed problem. To the writer's knowledge, there have been about eighteen different schemes or systems, most of them very much the same, but just different enough to go by a different name.

Recirculation Most Generally Used

Recirculation in one or another form is probably the most generally used system. Each different mechanical means of separating the blow through steam, the reflash, and condensation, between the various sections is called a system by its designer. They are all the same in theory, however, and date back to the old original simple recirculating system originated about forty-five years ago, and still in use in several of the older New England mills. The pressure in the wet end of the machine must be reduced to cause the recirculation. The maximum pressure must be greater and the heating capacity less, than if the machine were run one pressure from end to end. Furthermore, the recirculation into the wet end section carries the air with it and loads up this section with heavily air-saturated steam. The presence of steam with this air gives it the same temperature as the steam but it hasn't the heating capacity of all steam. As the sheet hits these wet end driers, its surface naturally heats first but there isn't the latent heat-driving force in the steam in these driers necessary to penetrate into the middle and cockle develops. Where there is a presence of air in the drier, the surface temperature of that drier seems dead and the sheet clings tightly to it. The draw of the paper machine is stretching out that wet sheet and, if it sticks closely to the drier, it must pull lengthwise and hence increases the tendency to cockle. From a given trim on the wire there is a narrower sheet at the reel. To eliminate cockle the apparent method is to still further decrease the surface temperature of the wet end dryers.

There is another way that sometimes eliminates cockle and it would be interesting to know how many of the readers of this article have tried it or even thought of it. It is simple too, and it is by increasing the temperature at the wet end. To accomplish this, the recirculation from the other sections of the machine must be taken care of in some other manner and fresh steam, free of air, brought into the wet end dryers. The driving force of this steam seems to form a minute cushion of steam between the sheet and the drier, decreasing enormously the friction of passing over the dryer and thereby eliminating a large amount of the lengthwise stretch. Two things happen; the cockle disappears and the sheet is appreciably wider at the reel from a given trim on the wire. The right drainage system should permit the operators to run the steam up or down as conditions demand and without affecting in the slightest the drainage from other sections of the machine.

The imagined necessity of gradating temperatures on a paper machine, and particularly at the wet end, is usually all in the operator's head—it isn't usually necessary. The temperature of the sheet itself governs the drier surface heat, and over quite a wide range of pressure, the surface temperature of the wet end dryers will remain approximately the same. The most perfect drying curve and the widest sheet at the reel, with the lowest operating pressures is obtained from one pressure end to end, and strangely so, most of the moisture variations in the finished paper, disappear.

The Explanation

This is explainable. In any recirculating system, who knows how many of the syphons blowing through in the dry end section are necessary to supply the decreased pressure at the wet end? All of them perhaps, but more probably only some of them. It takes but an extra one-half inch of water in a few of the dryers to decrease slightly the drying rate, operate the moisture control, and slightly increase the pressure in the driers, starting those loaded syphons to function and relieving those few driers of their extra half-inch of water. The increase in drying capacity again operates the moisture control and some other driers start to load. *It is an absolute fact that the bulk of the moisture variations in a sheet of paper do not come from the sheet changes but from variations in the steam supplied to the machine directly traceable to bad drainage conditions.*

Any paper machine operating one pressure from end to end, controlled by an accurate enough pressure or temperature controller of pressure and each dryer drained independently and completely all the time, will dry paper or board without any appreciable variation in moisture content. As the sheet enters the driers a little slower or heavier, it will carry on into the drier a little further a little cooler, having a tendency to increase slightly the steam consumption at the wet end. This, of course, has a tendency to decrease the pressure in the whole machine and the controller opens a trifle to maintain the pressure. This slight extra flow of steam to maintain the pressure keeps exact pace with the added drying requirements

* Delivered at the meeting of the Pennsylvania, New Jersey, and Delaware Division of the American Pulp and Paper Mill Superintendents Association, Hotel Yorktown, York, Pa., October 9, 1937.

[1] A. E. Broughton & Co., Glens Falls, N. Y.

in the slightly heavier or slower sheet. In other words, the instant that sheet enters the wet end driers, it sets up a condition automatically of slightly more steam to take care of the slightly more water necessary to be evaporated to maintain a fixed desired moisture content at the reel. Here is nature's own moisture controller operating from the wet end of the paper machine and without any tension rolls or complicated mechanisms, easy to get out of order and difficult to maintain.

Discovered by Accident

The writer found this out by accident several years ago. He was engineering some changes in a mill in the Middle West and the turbine generator failed. The power had to be developed temporarily from a large stand-by engine. The exhaust line was long and branched off in the machine room basement to both paper machines, equipped with tension roll controllers. Each carried one pressure end to end, and each drier was individually and completely drained. The handling of the steam valve on one machine during a period of haying out would invariably change the steam pressure in the other machine and cause it also to go down. To get the power required from the engine, the back pressure could not exceed 10 pounds. The paper machines operated at all pressures from 0 to 9½ lbs. The problem was to get, and quickly, a pressure reducing mechanism, accurate and easy to adjust, and quick enough in operation to maintain the desired pressure regardless of what was happening to the other machine. The writer made it out of a couple of 6 inch standpipes, a float of a piece of tube roll, and a pulley and a chain, and water. By varying the length of the chain, the steam valve was opened until the pressure rose to drive the water out of one 6 inch standpipe and up into the other to float the float and counterbalance the position of the main steam valve. Any slight variation in pressure would vary that water column and operate the valve. Pretty crude but it was unbelievably accurate.

A day or so after, the paper tester came in and wanted to know what we had done to iron out the moisture content variations. He said they were now so small he could hardly figure them. The backtender then chimed in and said it was funny but he could run much closer to the blackening point without running over. We began looking around to see what it was all about and first installed a series of long water glasses on one of the 6 inch standpipes. That was interesting for we could see the water dancing up and down a little bit all the time. So we went back and deliberately put on a round of stock or about 1 lb. in basis weight and stood there by the water column with a stop watch. Just the instant that heavier sheet entered the drier section that water column went down about 5 inches. Open went the steam valve a little to increase the flow of steam to maintain the pressure. The paper tester came back a little later and told us the moisture content had not varied enough for him to measure it. This same scheme was employed by the writer about a year later in another mill and a test run of thirteen hours was made, without a break and with three changes in weight beginning at 28 lbs. and ending at 35 lbs. After the first set, the steam control was not again touched during the entire test regardless of weight changes, and the moisture from reel to reel never varied more than ½ of 1 per cent.

The drainage system employed is fully described in our Bulletin No. 14 and will be sent to anyone on request. This system allows the paper on board machine to operate one pressure from end to end or any combination of pressures, up or down, that the operators may desire. Each drier is individually and completely drained through an ordinary check valve operating as an automatically gradated orifice, absolutely right for every paper, every speed, and every pressure.

Difficult to Maintain Moisture Content

It is usually quite difficult to maintain a moisture content on machines subject to breaks. Again the fault lies in the method of handling the steam. The back tender shuts off *ALL* the steam just after the break occurs either by hand or by adjustment of the controller. The dryers are still condensing and quickly use up what steam there is left in them, dropping their pressure below atmosphere. Quantities of air are immediately sucked in around the steam heads, filling the dryers or, at least partially filling them with air. In resuming operation, all this air must be blown out and in order to do this, a much higher steam pressure is required. The first paper usually comes over a little too damp, and gradually dries up until it becomes too dry. The steam is cut down bit by bit until the old heat balance has been reached. All this takes time and probably a reel or two have been made with a wide variation of moisture content throughout.

The Cure

The cure for this is, when a break occurs don't shut off all the steam, but just a portion of it. The writer used a small by-pass around the main steam valve and supplied steadily into the machine just enough steam to maintain atmospheric pressure or a few ounces above. It kept the air from getting into the driers when the main steam valve was closed and it saved many a reel that ordinarily would have gone back to the broke beater.

Variations in speed is another usual and troublesome factor and, of course, has its effect on moisture content. A great many paper machines are driven by engines and, in most cases, the throttle valves are too large and the governor and engine speeds not syncronized properly for the amount of power the engine is delivering. The seats in the throttle valve should be sized such that the valve operates about half open and not right down on the seats. With a nearly shut throttle it is practically impossible for an engine governor to regulate accurately. If two engines are employed, one for constant and one for variable speed, and the drainage system, together with steam control, is right, there will always be a little more exhaust than is necessary for drying, and no live steam make-up is ever required. In order not to have too much excess exhaust the engine speeds must be balanced intelligently against the back pressure required for drying.

To Start Ground Wood Mill at Molndal

WASHINGTON, D. C., October 13, 1937—Aktiebolaget Papyrus, Mölndal, established in 1895 with a share capital of 6,250,000 crowns, to manufacture paper, cardboard and sulphite cellulose, has started the construction of a new mill for the annual production of 15,000 to 20,000 tons of mechanical wood pulp, according to a report from Commercial Attache Charles E. Dickerson, Jr., Stockholm. This plant is to be completed at the beginning of 1938.

Obituary

Col. Clarence R. Falk

Col. Clarence R. Falk, secretary and treasurer of the Falk Corporation, Milwaukee, Wis., is dead. Col. Falk was nationally known in his business field as a manufacturer. He served on numerous civic, philanthropic and educational boards, was a patron of music and a pioneer aviation enthusiast.

Born in Milwaukee, he began his business career in the Savings Department of the First Wisconsin National Bank. Later he became dramatic critic for one of the daily papers. He was then identified with the Cloos Electrical Engineering Company and in 1901 became associated with the Falk Corporation where he worked his way up through various departments, eventually becoming works manager. In 1914 he was made vice-president.

Entering the World War as a captain in the quartermaster's reserve corps at Jeffersonville, Ind., he remained in service until the end of the war when he became a Lieutenant Colonel. Returning to the Falk Corporation, he resumed his duties and in 1923 was made secretary and treasurer, the position he held until the time of his death.

Ernest W. Bush

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., October 12, 1937—Word was received here last week of the death at Thorold, Ont., of Ernest W. Bush, superintendent of the Provincial Paper Mills of that place. He was a past president of the Canadian Division of the American Pulp and Paper Mills Superintendents' Association. He was born in South Hadley Falls and lived there until he removed to Canada. He was production manager of the Chemical Paper Manufacturing Company in 1929-30 and in previous years had been superintendent of that company, the Crocker-McElwain Company, and the Crocker Division of the American Writing Paper Company. He was also superintendent of a paper mill in South America for one year. He was a former member of Mt. Tom Lodge of Masons. Besides his wife, Mrs. Helen (Stewart) Bush, he left two sons, Stewart William and Ernest William, both of Thorold, and one sister, Mrs. Beatrice Young of Pittsfield. The funeral was held in this city at the Alger Funeral Home Saturday afternoon. Burial was in Forestdale cemetery.

Lewis H. Buck

[FROM OUR REGULAR CORRESPONDENT]

ALBANY, N. Y., October 11, 1937. — Lewis H. Buck, president of the L. H. Buck Company, wholesale paper dealers, died here last week and the funeral was held from his home in Plattsburgh. He was widely known in this district through his connections with paper manufacturing concerns in this city. His company covered a great part of Northern New York in its sales campaigns.

Edward H. Hall

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., October 12, 1937. — Edward H. Hall, 75, former treasurer of the American Writing Paper Company, Inc., died Friday at his home at 399 Union street, Springfield. He was born in that city and had served the company in various capacities before being made treasurer. During the World War he was active in the campaigns conducted by the American Red Cross. He was a member of the Church of the Unity, and a 32nd degree Mason. His only other relative is a brother, Joseph L. Hall, of Brookline. The funeral was held at the Dickinson-Streeter Funeral Parlor with burial in the Springfield cemetery.

Harrison Crowell

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, October 11, 1937. — Word was received in Dayton Thursday by Mrs. Willard H. Marquardt, 53 Birchwood avenue, of the death in Sylva, N. C., of Harrison Crowell, managing engineer of the Mead Pulp and Paper Company in that city.

Mr. Crowell, who died suddenly Wednesday, lived in Dayton for 10 years before moving to Sylva about six years ago. Surviving are his widow, Jeanette, three sons, Harrison, Jr., Jack and Edward. Funeral services and burial were held Saturday in Skowhegan, Maine.

In Memoriam of H. J. Laughton

The following resolutions on the death of the late Herbert J. Laughton, associate editor of the PAPER TRADE JOURNAL, were adopted by the executive committee of the Salesmen's Association at a meeting held in Chicago September 10:—

WHEREAS, we have learned with deep sorrow of the death of H. J. Laughton, former member of the Salesmen's Association of the Paper Industry, and

WHEREAS, his sterling character, his faithfulness, his ability, his unselfishness, his kindness, his understanding and his wholesome goodfellowship, endeared him to the hearts of his fellow-members, and

WHEREAS, in his passing, not alone the Salesmen's Association of the Paper Industry, but all those with whom he came in contact, have suffered a great loss, therefore be it

RESOLVED, that in behalf of the entire membership of the Salesmen's Association, its Officers, Executive Committee and Advisory Board, adopts these resolutions to the tribute of our late fellow-member, H. J. Laughton, and

RESOLVED, further, that a copy of these Resolutiions be spread upon the Official Minutes of the Salesmen's Association of the Paper Industry, and that a copy be transmitted to Mrs. Laughton, and the PAPER TRADE JOURNAL, who were associated with him in the paper industry, that we may extend to her and to the PAPER TRADE JOURNAL an expression of our sincere sympathy.

Beckett Paper Co. To Build Addition

DAYTON, Ohio, October 8, 1937. — The Hamilton city council Wednesday night passed an ordinance providing for the vacation of Buckeye street, between Fourth and Fifth streets, so that the Beckett Paper Company may build an addition to its plant at an estimated cost of $40,000 to $60,000.

A resolution of vacation was passed July 7 after communication from Guy H. Beckett, vice-president of the company, was received. No protests were made at a public hearing last Monday of the board of revision of assessments.

Delaware Valley TAPPI Discusses Heat

The Delaware Valley Section of the Technical Association of the Pulp and Paper Industry met at the Yorktowne Hotel, York, Pa., Friday evening, October 8, 1937. Following dinner a motion picture on "Heat and Its Control" was shown by representatives of the Johns-Manville Company, following which there was a spirited discussion of the various problems relating to the use of heat in paper mills. Particular interest was displayed in insulation and ventilating questions concerning the paper machine. James d'A. Clark of the Scott Paper Company, Chester, Pa., presided as chairman and the discussion on heat problems was led by N. A. Humphrey of the Johns-Manville Company. There were a number of members of the Pennsylvania - New Jersey - Delaware Division of the Superintendents Association present.

The next meeting of the Section will be held at the Engineers Club in Philadelphia on November 12.

Those present were: Beloit Iron Works, Beloit, Wis., V. S. Denison; Booth Chemical Company, Elizabeth, N. J., L. M. Booth; A. E. Broughton & Co., Glens Falls, N. Y., E. C. Jacobi; Castle & Overton, Inc., New York, N. Y., J. H. Dow; Chromium Corporation of America, New York, N. Y., J. B. Allen; Continental Diamond Fibre Company, Newark, Del., G. E. Landt; Congoleum-Nairn, Inc., Cedarhurst, Md., G. S. Brickett; same company, C. W. Cassell; Container Corporation of America, Philadelphia, Pa., J. F. Halladay; same company, S. D. Reynolds, R. W. K. Ulm; Dill & Collins, Inc., Philadelphia, J. R. Atwater; same company, H. C. Schwalbe; Downingtown Manufacturing Company, Downingtown, Pa., E. T. Street; E. I. duPont de Nemours & Co., Wilmington, Del., A. C. Mueller; same company, G. L. Schwartz; Eastwood-Nealley Corporation, Belleville, N. J., P. E. Daley; Elk Paper Company, Childs, Md., P. D. Bradley; General Dyestuff Company, Philadelphia, Pa., G. B. Martin; Glassine Paper Company, W. Conshohocken, Pa., R. F. Nelson; P. H. Glatfelter Company, Spring Grove, Pa., R. H. Bentz; same company, A. J. Luettgen, N. B. Rohrbaugh, Kermeth Rose, R. R. Strausbaugh, E. F. Troop; H. E. Goodling Electric Company, York, Pa., H. C. Busser, Chairman of the Superintendents Association; Hamersley Manufacturing Company, Garfield, N. J., E. J. Gruenewald; same company, H. A. Smith; W. C. Hamilton & Sons, Miquon, Pa.; E. N. Poor; Heller & Merz, Philadelphia, Pa., G. H. Detwiler; Hercules Powder Company, Easton, Pa., J. C. Dieffenderfer; same company, C. E. Kinney; Homasote Company, Trenton, N. J., H. L. Becher; Johns-Manville Corp., New York, N. Y., J. M. Hemphill; same company, N. A. Humphrey, H. K. Owen, R. C. Parlett; Krebs Pigment & Color Corporation, Philadelphia, Pa., W. J. Beasten; Manhattan Rubber Manufacturing Company, Passaic, N. J., H. H. Burrows; McDowell Paper Mills, Manayunk, Pa., M. C. Maxwell; same company, F. J. McAndrews, Jasper Purcell; National Aniline & Chemical Company, Philadelphia, Pa., V. Jacobsen; same company, K. Ivar Ekholm; R. O'Donoghue, New York, N. Y.; R. O'Donoghue Co., Spring Grove, Pa., H. E. Ingalls; Penn Fibreboard Corporation, York, Pa., J. A. Dean; same company, J. H. Brougham; Mason-Neilan Regulator Company, Boston, Mass., H. C. Earle, Jr.; same company, W. T. Mayer; National Vulcanized Fibre Company, Yorklyn, Del., F. H. Cronin; same company, H. T. Lundquist, John Macadam, H. L. Maier, Jr., Jay Robinson; Phenolite Company, Kennett Square, Pa., J. H. Cronin; Pusey & Jones Corporation, Wilmington, Del., S. M. Bratton; same company, S. G. Briscol, H. J. Farra, A. McInness, Jr.; Reliance Electric and Engineering Company, Cleveland, Ohio, E. Koontz; same company, Ed Holm; C. W. Rivise, Philadelphia, Pa.; Scott Paper Company, Chester, Pa., F. W. Brainerd; same company, James d'A. Clark, C. M. L. Corbin, J. H. Masshard, L. P. Moore, M. B. Pineo, Harold Wattman, N. W. Cady, R. M. Young; Southern Kraft Corporation, York Haven, Pa., J. A. Elson; same company, G. C. Koch, L. H. Reed, Bernard Raine, M. D. Reuben; Stowe-Woodward, Inc., New York, N. Y., Fletcher P. Thornton; Moore & White Company, Philadelphia, Pa., J. Roslund; R. G. Macdonald, secretary of TAPPI, New York, N. Y.; W. S. Tyler Company, Cleveland, Ohio, H. C. Ganet; U. S. Rubber Company, Philadelphia, Pa., A. E. Wangh; Valley Forge Laboratories, W. Conshohocken, Pa., C. M. Connor; West Jersey Paper Manufacturing Company, Camden, N. J., J. C. Harper, Jr.; Westinghouse Electric and Manufacturing Company, Philadelphia, Pa., A. M. Cooper.

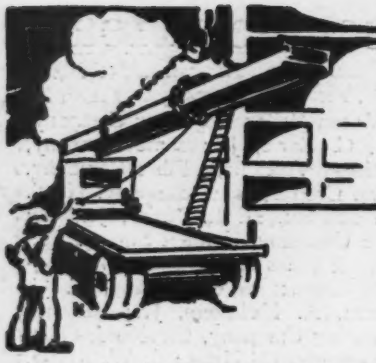
Evening Courses in Pulp

Courses in pulp and paper manufacture will be offered in evening classes of the vocational schools of Wisconsin again this fall. The instruction will benefit those who desire to become more familiar with the manufacture of paper from a physical standpoint. Employes engaged in cost, sales, accounting, receiving, shipping, statistical and other administrative positions are being invited to enroll, as well as those employed on operative jobs. Subjects to be discussed include physical characteristics of pulp and paper, properties of pulp, uses and grades of pulp, process methods, and factors determining results of pulping.

Classes have been started in the Fox River Valley also in a school for workers in industry. Students recruited from paper and pulp mills and other plants will be taught the rudiments of labor problems, economics, history, social psychology, and specialized training in the economics of particular sectional industries. The purpose is to build an intelligent application of labor relations matters.

Schlafer Wants Additional Lines

The Schlafer Supply Company of Appleton, Wis., probably the oldest paper mill supply house in America (having specialized in this field for over 60 years) covering the entire paper industry of the United States, are looking for new volume producing paper mill specialities and supplies to sell with their present lines. K. M. Haugen, their sales manager, will welcome hearing from firms having such merchandise.



CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, of Pulp and Paper Mills

Rhinelander Adds New Machines

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., October 11, 1937—To keep pace with the many new specialties it has developed, the Rhinelander Paper Company, Rhinelander, Wis., has added a new glassine and greaseproof machine, which is now in operation.

The new unit is equipped with the latest modern devices for producing highly uniform glassine and greaseproof papers. It is a 125-inch Fourdrinier, equipped with a 71-foot wire, 30-inch suction couch, and six suction boxes, with an A. E. Broughton & Co. system consisting of individual drop legs from each suction box. The press section consists of a Beloit Iron Works dual press and a reverse press. Dryer section is equipped with a Feeney felt drying system, Midwest Fulton Engineering Company drainage system, and a Mason-Neilan moisture control system.

Beater equipment consists of a Shartle Brothers "Tugboat Annie" connected to two Rotobeaters, which may be operated in series, parallel, or either beater individually.

A new machine room and beater room have been erected of concrete and brick by C. R. Meyer & Sons Co., contractors, of Oshkosh, Wis.

Addition of this unit gives the mill four machines on glassine and greaseproof paper, and one machine on Yankee specialty papers.

One of the Rhinelander products which has enjoyed a popular market and heavy demand is Laminite, a new and different item from any paper product previously manufactured. It is made by laminating together a number of sheets of glassine. In its finished form it possesses remarkable qualities of translucency, a valuable feature to lithographers, printers and other display manufacturers who want a durable and semi-transparent paper product upon which to print a variety of advertising designs. It replaces glass for many display sign uses. Lacking oils and paraffine, it is used for lighted displays which otherwise would run because of the heat. It also makes striking catalogue covers, sales portfolios, posters, charts, maps, etc.

Brown County Mills Make Improvements

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., October 11, 1937—Increasing demand has made it necessary for the Brown County Paper Mills Corporation, De Pere, Wis., to undertake a number of plant improvements. The beater room has been enlarged, a new floor was laid, and two new beaters were installed. Two new 350-h.p. Keeler boilers with combustion engineering have been added, and a 100-foot brick smokestack has been completed. Other extensive repairs and improvements are contemplated.

Since the mill property was acquired from Miller Brothers several years ago, the business has been thriving. Forty-four workers are now employed with a payroll exceeding $1,000 per week. In January of this year, W. R. Cloud, who has been associated with the paper industry for 36 years, took charge as superintendent. Items now manufactured include document manila, tag, ham wrap and other lightweight specialties.

Production is entirely from waste stock supplied by corporations owned by the same concern, including: Menasha Mill Supply Company, Menasha, Wis.; U. S. Paper Mill Supply Company, Des Moines, Iowa; Kansas City Waste Paper Company, Kansas City, Kans., and U. S. Paper Supply Company, Three Rivers, Mich. The main office of the Brown County Paper Mills Corporation is in Chicago. Mrs. Blanche Frienberg is the president, and Harold Schilling is the vice-president. Both are residents of Chicago.

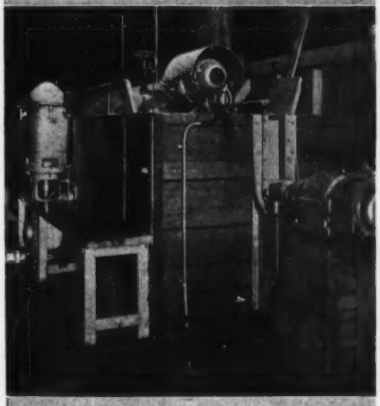
Operations are maintained practically at capacity, with a regular schedule of six days a week, and during rush periods, seven days a week. About 1,000 tons of old paper stock are on hand at the present time.

General Construction News

Middletown, Ohio—The Crystal Tissue Company, manufacturer of tissue, kraft and other paper stocks, has approved plans for new addition to power house at mill, including installation of a 2000-kw. turbo-generator unit and auxiliary equipment, and will begin work on unit at early date. An award for the turbine has been let to General Electric Company, Schenectady, N. Y., and for a bleed-type condenser, to the Elliott Company, Pittsburgh, Pa. Contracts for other equipment will be placed in near future, including coal- and ash-handling equipment, switchboard, instruments, etc. W. I. Barrows, Reibold Building, Dayton, Ohio, is consulting engineer.

Glens Falls, N. Y.—The Glens Falls Paper Box Company, Inc., recently organized with capital of 200 shares of stock, no par value, plans operation of local plant for manufacture of paper boxes and containers. New company is represented by Bertram M. Aufsessor, 100 State street, Albany, N. Y.

Natural Dam, N. Y.—The Rushmore Paper Mills, Inc., manufacturer of tissue and other light-



Westinghouse Gearmotors drive the cylinder and couch rolls on 48" x 144" deckers. At the left are two 30-hp. vertical type SC motors, which drive Bingham pumps serving the deckers.

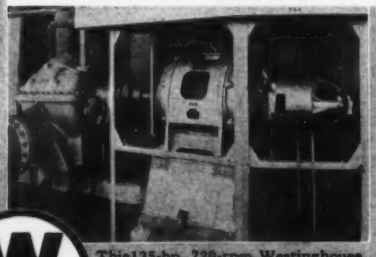
Another NEW MILL...

WESTINGHOUSE-EQUIPPED!

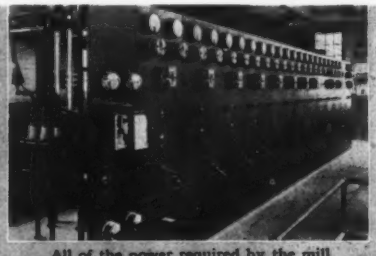
Electrification of the Soundview Pulp Company's new mill at Everett, Washington was a job calling for the very finest in modern equipment. The search by its owners for the latest improvements in paper mill drive led to Westinghouse, as is so often the case. Today, enthusiastic operating reports are confirming the wisdom of this choice.

For new mills or modernization jobs, Westinghouse equipment and engineering experience meet every test. It is an especial source of pride that so many mills, equipped in years past, are now turning to Westinghouse again for modernization. It will pay you to investigate the undivided responsibility which Westinghouse brings to the paper industry's problems. There is no obligation. Simply call your nearest Westinghouse office. J 93264

Westinghouse Elec., E. Pittsburgh, Pa.



This 125-hp., 720-rpm. Westinghouse synchronous motor drives a Bingham pump in white water service.



All of the power required by the mill is handled by this Westinghouse distribution switchboard.

UNDIVIDED RESPONSIBILITY MULTIPLIES THE VALUE of WESTINGHOUSE SERVICE

W WESTINGHOUSE ELECTRIC

FROM INCOMING LINE TO DRIVEN MACHINE

Specify Westinghouse

weight paper products, has awarded contract to Williams Bridge Company, Union Building, Syracuse, N. Y., for structural steel framing for new mill unit, to replace a structure destroyed by fire last spring. Work on superstructure will be placed under way soon. Cost reported close to $100,000, including equipment.

Fort Dodge, Iowa—The National Gypsum Company, Fort Dodge, manufacturer of wallboard and kindred products, is arranging for early clearing of site of mill unit recently destroyed by fire, as previously noted in these columns, and will proceed with superstructure for new building at early date. Fire loss was estimated at close to $200,000, including equipment, and reconstruction will cost approximately a similar sum. Company headquarters are at 190 Delaware avenue, Buffalo, N. Y.

Chicago, Ill.—The Auburn Carton Company, 525 West 76th street, recently organized with capital of $25,000, and 5,000 shares of stock, no par value, plans operation of local plant for the manufacture of paper boxes and containers. R. B. Boyle is one of the incorporators. Paul Weiner, 120 South LaSalle street, is also an incorporator and representative.

Los Angeles, Cal.—The Dixie-Vortex Company, 421 North Western avenue, Chicago, Ill., manufacturer of paper cups and kindred paper products, has acquired an industrial building at South Gate, Los Angeles, and will occupy for new branch plant for Pacific Coast trade. Machinery and equipment will be installed for large capacity. Work is scheduled to be placed under way at once. Entire project is reported to cost in excess of $75,000.

West Springfield, Mass.—The General Fibre Box Company, Circuit avenue, West Springfield, manufacturer of corrugated fiber boxes and containers, has awarded general contract to Fred T. Ley & Co., Inc., 1215 Main street, Springfield, for two new additions to plant, recently noted in these columns, consisting of a new one-story shop unit and extension in boiler house. Superstructure is scheduled to begin at once. Cost over $40,000, with equipment. McClintock & Craig, 458 Bridge street, Springfield, are architects and engineers.

Anacortes, Wash.—The Puget Sound Pulp and Timber Company, Bellingham, Wash., has plans under way for new steam power plant at branch sulphite pulp mill at Anacortes, to be equipped for large capacity. It is reported to cost over $250,000, with boilers and other equipment. H. P. McCurdy, 2929 Sixteenth avenue, Seattle, Wash., is consulting engineer. As recently noted in these columns, company has recently awarded contracts for a similar steam power station at Bellingham mill, in connection with a large expansion program at that plant.

Long Island City, New York—The Standard Corrugated Case Corporation, 48-08 Thirtieth place, Long Island City, manufacturer of corrugated boxes and containers, has leased the one-story building at 448 Jackson avenue, Long Island City, totaling about 12,000 square feet of floor space, and will improve and equip for early occupancy. It will be used primarily for expansion in storage and distributing department. Joseph Liskin is president.

Nitro, W. Va.—The American Viscose Corporation, 200 Madison avenue, New York, has completed the erection of a new plant at Nitro, on which work has been under way for a number of months, as previously referred to in these columns. The new mill is the first in this country to be devoted exclusively to the production of staple fiber and has been designed for a rated capacity of 20,000,000 pounds of such material a year. Production has been started on a reduced basis, pending the complete installation of all machinery in different departments, and which work is now in progress. It is expected that the mill will be fully completed by the close of the year, when capacity schedule will be adopted, including all sizes and lengths of both bright and dull staple fiber. The plant comprises a group of one-, two- and three-story units, with power house, pumping station and other miscellaneous structures, and is said to represent an investment in excess of $1,500,000. William Vivian, for many years in charge of company pulp mill at Nitro, will be manager at the new plant.

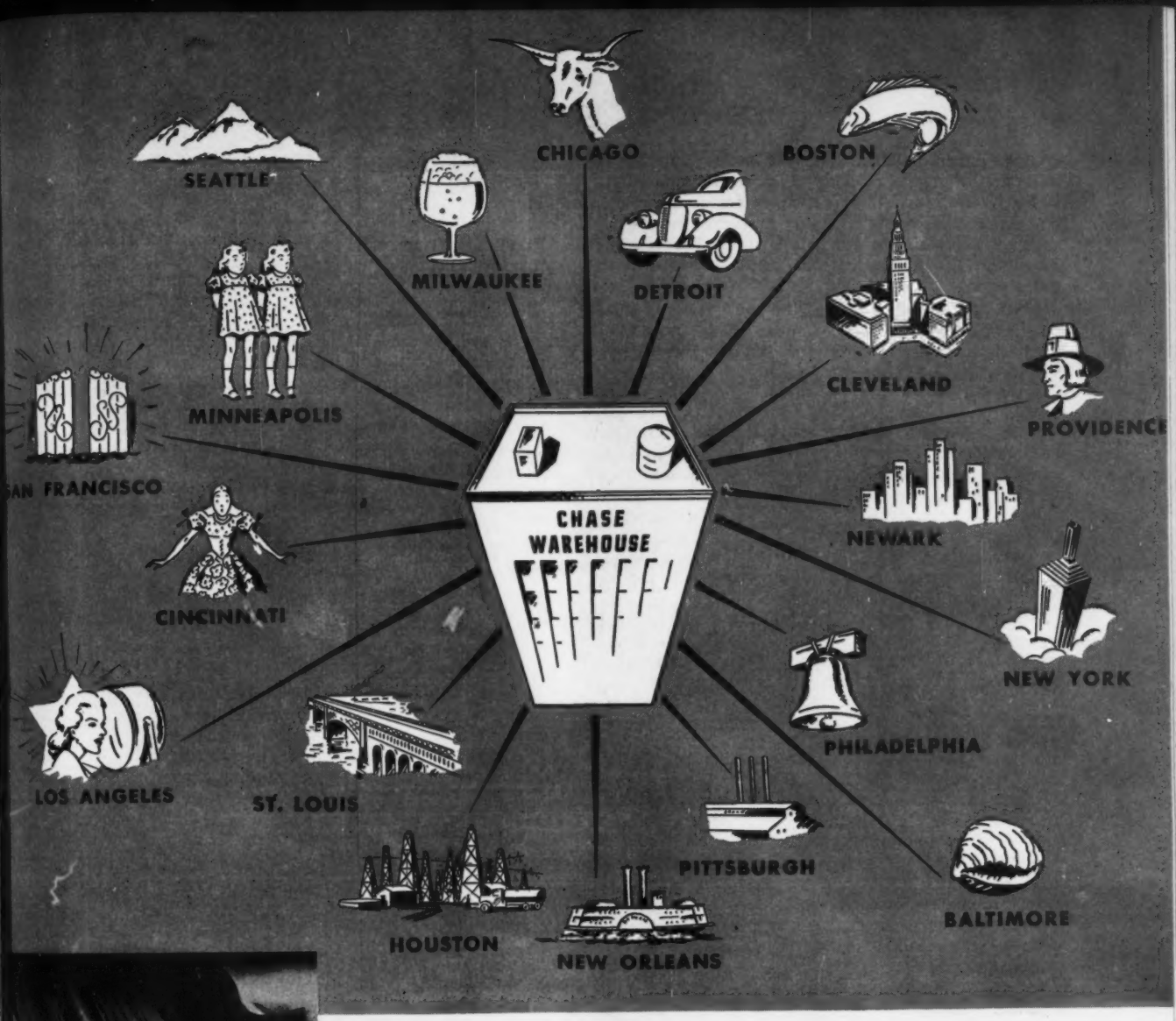
Pasadena, Tex.—The Champion Paper and Fibre Company, Houston Division, has awarded a contract to Morrison-Knudsen Company, Houston, for the construction of a 9-foot diameter concrete tunnel, below the Houston ship channel, to a depth of about 30 feet, totaling about 800 feet long, to be used as a tube for housing a 30-inch welded steel pipe line for water supply for mill. Contract price is stated at $125,000. Work is scheduled to begin at once. As recently noted in these columns, company will secure water supply from wells at Magnolia Gardens, near Houston, Howe & Wise, Houston, are consulting engineers for pipe line project.

Stanton, Del.—The former mill of the Ad-Tissue Company, Stanton, specializing in the production of tissue stocks, has been taken over by the Stanton Worsted Corporation and is being remodeled for occupancy by that company.

Stillwater, N. Y.—The Stillwater Tissue Mills, Inc., recently chartered with capital of $100,000, will take over and operate a mill in this section. Arthur H. Vinett, Stillwater, is one of the incorporators and company representative.

Mobile, Ala.—The National Gypsum Company, 190 Delaware avenue, Buffalo, N. Y., manufacturer of wall board and allied products, has awarded a contract to the General Cable Corporation, 420 Lexington avenue, New York, N. Y., to design and construct certain special machinery for insulating fiber board manufacture to be installed in new mill at Mobile, recently referred to in these columns. As previously noted, the plant will be used primarily for this line of output, and will represent an investment of about $1,000,000. H. K. Ferguson Company, Hanna Building, Cleveland, Ohio, is general contractor for erection, on which work will be placed under way soon.

San Francisco, Cal.—The Stecher-Taung Lithograph Corporation, 640 Battery street, manufacturer of folding paper boxes and containers, and kindred paper products, has awarded general contract to the K. E. Parker Company, 135 South Park street, for new two-story and basement addition to plant at Battery and Jackson streets, at price of $117,697, and superstructure will be placed under way soon. An award for elevators has been made to the Otis Elevator Company, 1 Beach street, at $8,950, while sprinkler system will be installed by the Grinnell Company, Fifth and Brannan streets, at price of $5,595. Entire project with equipment is reported



WHAT YOU WANT . . . WHEN YOU WANT IT!

When you need brass, copper or bronze, Chase Warehouse Service can generally give you what you want when you want it. For there are nineteen Chase quick-delivery warehouses, located in key cities from coast to coast. Copper water tube and fittings for stock and white water lines, copper and red brass pipe, bolts and nuts, copper and brass sheet, rod, wire and tube — you can depend on Chase for *quicker* service in delivery — *longer* service in wear!

HASE COPPER · BRASS · BRONZE OR PULP and PAPER MILLS

hase makes a complete line of brass and copper roducts for paper mill use, including red-brass nd Olympic Bronze for cylinder mould tie rods nd winding wire, brass tubes for rolls, con-enser tubes, Olympic Bronze for tanks, bronze r beater knives, etc. Chase Engineers, ex-erienced in paper mill problems, will be glad consult with you without obligation.

CHASE BRASS & COPPER CO.

INCORPORATED

Subsidiary of Kennecott Copper Corporation

Waterbury Connecticut

CHASE

to cost close to $200,000. Jesse Rosenwald, 525 Market Street, San Francisco, is consulting engineer.

Shelton, Wash.—Officials of the Rainier Pulp and Paper Company, Shelton, have chartered a new organization under Delaware laws, to be known as Rayonier, Incorporated, to consolidate that company with the Grays Harbor Pulp and Paper Company, Hoquiam, Wash., and the Olympic Forest Products Company, Port Angeles, Wash., recently referred to in these columns. Details of the merger are now being consummated.

Toronto, Ont.—The Hinde & Dauch Paper Company of Canada, Ltd., 43 Hanna street, Toronto, manufacturer of corrugated boxes and containers, has approved plans for new addition to boiler house at local plant, on which work will be placed under way at once. It will cost close to $30,000, with equipment. Company is a subsidiary of the Hinde & Dauch Paper Company, Sandusky, Ohio.

La Tuque, Que.—The Brown Corporation, La Tuque, is reported to be planning early calls for bids for new additions to local sulphate pulp mill, comprising several one- and multi-story units, to be equipped for large increase in capacity. It is said that entire project will represent an investment of more than $5,000,000 for buildings, machinery and other operating facilities. J. K. Nesbitt is company engineer at mill. Company is affiliated with the Brown Company, Berlin, N. H.

Nipigon, Ont.—The Lake Sulphite Pulp Company, 210 St. James street, West, Montreal, Que., has awarded general erection contract to Barnett-McQueen, Ltd., Fort William, Ont., for new pulp mill units at Nipigon, comprising a series of one- and multi-story buildings for chipping department, digester building, screening, bleaching and other operating divisions, as well as storage and distributing buildings, power house and miscellaneous structures. Work is being placed under way, and plant is scheduled to be ready for operation in 1938. As recently noted in these columns, awards for certain primary equipment are being made and contracts for other machinery will be placed at early date. Entire project will cost in excess of $6,000,000. J. Stadler, 1117 St. Catherine street, West, Montreal, is engineer; L. E. Little, 660 St. Catherine street, West, Montreal, is architect for mill units.

Blackburn, England—A new company is being organized to take over and operate the Rishton Paper Mills, near Blackburn, which were closed last April, after running continuously for over 60 years. The mill will be remodeled and improved by the new owner and is expected to resume production at early date, giving employment to about 300 persons.

Tomahawk Kraft Sales Rise

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., October 11, 1937—At the close of its fiscal year, the Tomahawk Kraft Paper Company, Tomahawk, Wis., reported all production and sales records broken. This record is partly due to the work of J. H. Cowhill, sales manager, who has been elected to the board of directors and appointed as vice-president in charge of sales.

Other officers elected are: A. L. Kreutzer, president; S. B. Bugge, vice-president and general manager; D. C. Everest, secretary-treasurer, and H. L. Fitze, assistant secretary-treasurer.

Indianapolis Demand Improves

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., October 11, 1937. — Paper demand in all lines of seasonable merchandise showed a slight expansion in this area during the last week. Weather returned to fall temperatures and the general undertone of the market is stronger. With the coming of cool weather there has been a considerable impetus in demand for wrapping paper and for bags, particularly bags for the laundry and cleaning industry. There is virtually no demand at the present time for summer specialties and the trade believes the season is definitely over. Demand for tissues remains good, however, with a firm price level.

The fine paper demand is steady. Dealers have begun to reorder following the first heavy trade due to opening of schools and colleges and their stocks will be well balanced in another week or so. Printers report a number of good advertising projects in prospect and there is quite a bit of this work being done already. Books, covers and ledgers are moving steadily with prices very firm.

Demand for newsprint is fair. Such increase as has been made in orders seems to come from the smaller papers which barely held their own during the mid-summer months. With harvests over, their orders are increasing as money rolls into the country communities.

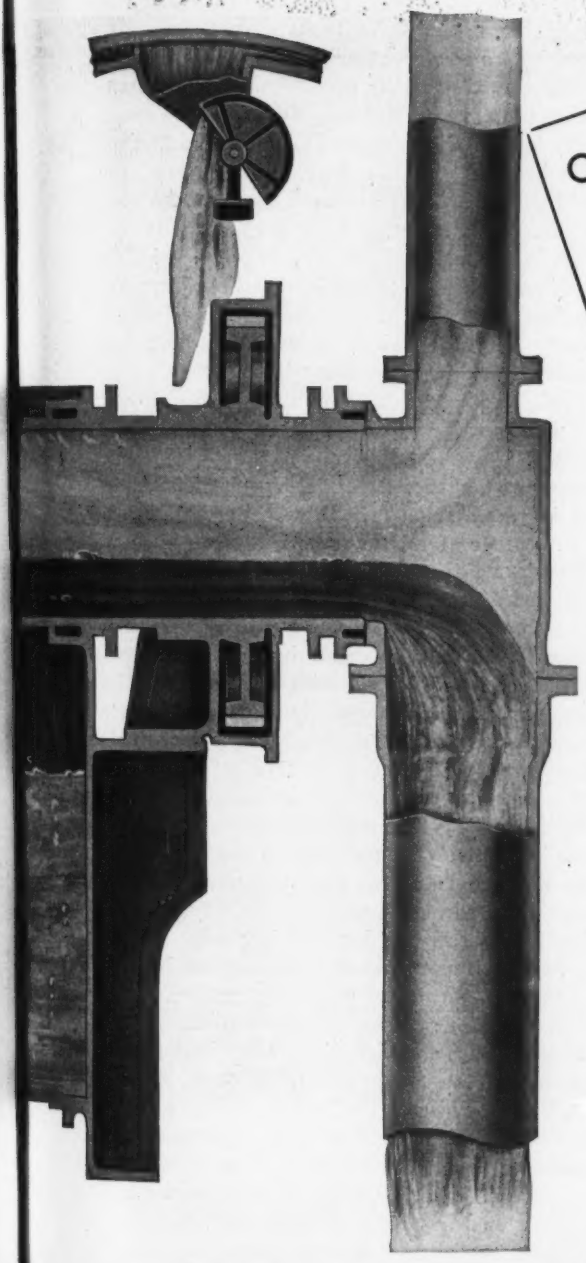
Box factories are busy. It is doubtful if the production is as high as it was this time a year ago, but warehouse stocks are low and production is expected to be speeded up gradually until the holiday season. Textiles, automobile accessory and hardware industries are steady buyers and the entire customer base is expanding slowly. During the week a number of inquiries were received from the confectionery trade concerning Christmas novelty boxes.

Paper stock demand is only fair. Local dealers say the mills are offering prices they feel are lower than are justified. Low grade rags and paper are in a particularly poor position just now. Other offering prices show little change.

Modern Turbines To Reduce Cost

Recent developments in higher steam pressures and temperatures, in boiler and combustion equipment, in steam turbines and in the application of exhaust and bled steam, and how these have all combined to make possible great economies in the generation of power and heat for buildings and industrial plants, is the theme of a 12-page, 11 x 16 inch brochure entitled "Modern Turbines to Reduce Costs," issued by the De Laval Steam Turbine Company, Trenton, N. J. Cheaper fuels can now be burned with less labor and with higher efficiency and much more power can be generated from a given weight of steam than formerly. Less building space is required, or increased demands for power can be met without increased costs for buildings and foundations. In many cases existing equipment, if in good condition, can be retained by superposing a high pressure boiler and turbine, the latter exhausting into the present steam mains. Engineers and owners of steam plants may study with interest and profit the great variety of steam turbine applications which are set forth in the text and illustrations of this publication, which will be sent free upon request.

MINIMIZED



One of the Outstanding Features
of the
OLIVER KRAFT WASHING SYSTEM
built around
Oliver-Young Kraft Washers

Air is the curse of kraft washing. Keep it out . . . prevent its intimate contact with black liquor . . . and you minimize, even overcome, foaming.

The Oliver Kraft Washing System minimizes foaming because of the unique design and operation of the Oliver-Young Filter. Note in the drawing of this filter how air, coming in through the valve (at the top) with the wash water or liquor, separates out in the drum. It does not mix with the filtrate. Note how air, if any, that is entrained with the filtrate as it passes through the valve (at the bottom) is immediately released at the surface.

But there is another way in which the curse of air is checked. Oliver-Young Filters operate at considerably higher speed, an advantage made possible by the exceptionally free flow of liquid. Because of the shortened time element, less air is encountered than with ordinary drum washers.

Capacities, too, are important. Coupled with the foam-minimizing advantage of the Oliver-Young Filter is its exceptionally high capacity. Because of its higher drum speed and unrestricted flow, smaller units of this filter have capacities comparable with those of larger vacuum washers. Yet, the discharged sheet is no thicker.

Full details on the Oliver Kraft Washing System and on the Oliver-Young Filter can be discussed at the TAPPI meeting in Savannah. Our paper engineers will be there.

OLIVER
UNITED FILTERS
INC.

351 California St.,
San Francisco, Calif.

PAPER TRADE JOURNAL

ESTABLISHED 1872

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COMING EVENTS IN THE PAPER INDUSTRY

TECHNICAL ASSOCIATION OF THE PULP AND PAPER INDUSTRY—Fall Convention, DeSoto Hotel, Savannah, Ga., Oct. 18-20, 1937.

NEW ENGLAND SECTION, Technical Association of the Pulp and Paper Industry—Third Friday of each month at the Nonotuck Hotel, Holyoke, Mass.

DELAWARE VALLEY SECTION, Technical Association of the Pulp and Paper Industry—Second Friday of each month at the Engineers Club, Philadelphia, Pa.

LAKE STATES SECTION, Technical Association of the Pulp and Paper Industry—Second Tuesday of each month at the Conway Hotel, Appleton, Wis.

KALAMAZOO VALLEY SECTION, Technical Association of the Pulp and Paper Industry—First Thursday of each month at the Park-American Hotel, Kalamazoo, Mich.

PROSPECTS FOR PAPER INDUSTRY ARE RELATIVELY PROMISING

Prospects for the paper industry for the remainder of 1937 are relatively promising, but the 1938 outlook cannot yet be clearly appraised, according to the Standard Statistics Company, the well known statistical authority. Some let-down, as compared with a year ago, tentatively appears in prospect for the early months of next year, in line with the trend of business generally.

The fall pick-up in paper board demand came somewhat later than usual, probably reflecting a policy on the part of consumers of holding buying down to absolute needs, in order not to encourage an advance in prices from the low summer levels. Accumulated demand should be sufficient to maintain fourth quarter volume at a level no more than 10 per cent below that a year ago.

Although paper board prices are higher than last year, costs have also advanced, and profits of most companies in the final quarter will do well to equal those of last year.

With a gradually increasing supply of board from Southern mills which are now nearing completion, there is some doubt as to whether even present prices can be maintained following the seasonal spurt in buying in October and early November, if demand is no greater than now seems probable. However, the industry is in better financial condition than it was several years ago, and no repetition of the disastrous price-cutting of that period is looked for. Moreover, the industry's policy, over the past few years, of acquiring price-cutting marginal production capacity, has been relatively successful, and may therefore be extended to cover any weak spots which develop in 1938.

Assuming, as now appears likely, that consumer inventories are substantially depleted during the coming winter and spring selling seasons, a substantial recovery in demand could occur with any marked revival in business generally later in 1938. Thus, the second half of 1938 may witness a renewed upswing in profits. Nevertheless, present prospects are for earnings in the final half of 1937 lower than in the first half and net in the first half of 1938 below year-earlier levels. Because of the favorable first half of this year, full year earnings of leading paper board companies should be higher than in 1936.

In the kraft paper division, indicated demand over the seasonally active remainder of the year should be adequate to absorb the supply. For early 1938, some weakening of the price structure is probable as a result of increased sulphate pulp capacity, although a large percentage of this increase will be devoted to paperboard, and a small proportion to bleached sulphate papers.

Any price decline, however, is likely to be orderly, and should not seriously weaken the position of kraft paper producers. Most of the mills constructed in the past few years are advantageously situated as to raw materials and transportation and have efficient modern equipment, permitting costs substantially below present selling prices. Most of the companies have completed financing to repay construction loans and are now in relatively secure financial position.

With the gradual development of new uses for kraft products, demand should eventually recover sufficiently to absorb the increase in production capacity. Any such move would be accompanied by an immediate strengthening of the price structure.

Production of newsprint continues to rise, with total United States and Canadian output in the eight months through August up to 3,045,290 tons, against 2,641,058 tons a year earlier. Shipments have about equaled production, but stocks have been accumulated in consumers' hands in anticipation of the increase in price (from $42.50 to $50 a ton for most producers) effective for the first half of 1938. Publishers currently have about two months' supply on hand, against one month's supply a year ago.

In view of the increased consumer stocks, a reduction in the rate of gain in output is indicated for the closing months of the year, while volume early next year may not run above comparable 1937 levels. Even in this event, however, the higher price should permit materially increased profits for manufacturers.

Demand for book and printing papers should be well sustained in coming months, with the indicated seasonal gain in advertising, and no important letdown is likely until early in 1938. Thus, maintenance of the profitable price structure in these divisions should be possible, and earnings from book and printing paper production over the remainder of the year should be fully up to the levels of late 1936.

Port Mellon Pulp Mill Closes

[FROM OUR REGULAR CORRESPONDENT]

VANCOUVER, B. C., October 9, 1937—Both pulp and sawmill plants at Port Mellon B. C. have been closed down for an indefinite period, and all crews laid off. Officials of the Port Mellon Operating Company Ltd., in Vancouver stated that the bulk of their business has been with Japan. At present it is impossible for them to secure credits covering future shipments to this country, and the decision was therefore made to close down their operations until other markets can be developed.

W. E. Burns Jr., sales manager for the Port Mellon company, states the recent drop in prices for sulphite pulp in the United States markets has made it impractical for them to attempt to seek an outlet there. He is hopeful that other overseas markets may be developed shortly to enable them to resume operations.

During the months of July the pulp mill of this company was closed down to allow for overhaul of some of the operating equipment. Since completion of this work the plant has been operating very satisfactorily and will be ready to resume without delay if sufficient profitable business can be obtained.

Will of Late H. H. Howard Probated

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, October 11, 1937. — The will of Howell H. Howard, prominent sportsman and president of the Aetna Paper Company, who was killed in an accident while playing polo in the east, was admitted to probate late Tuesday by Probate Judge William C. Wiseman. It bequeaths all real estate, household goods and personal effects to the widow, Loretta Hines Howard.

A stipulation is made in the testament setting aside 450 shares of common stock in the Aetna Paper Company and all the rest and residue of the estate as a trust fund to be administered by the widow as trustee. She is also named executrix of the estate.

The will was dated January 20, 1937. No determination as to the value of the estate in indicated in the papers accompanying the will.

Contracts Under Walsh-Healy Act

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., October 13, 1937—One hundred and thirty-three contracts have been entered into for paper and allied products during the past year under the Walsh-Healy government contract act with the government, totaling $10,284,792.56 which is 4.17 per cent of the total value of contracts entered into during that period under the act according to the Department of Labor.

Production Ratio Report

The statistics are based upon paper production reports to the American Paper and Pulp Association.

COMPARATIVE MONTHLY SUMMARIES

Months	1937	1936	1935	1934
January	90.3%(c)	76.1%	65.8%	.....
February	90.1%(c)	77.9%	70.0%	.....
March	90.3%(c)	76.0%	70.5%	.....
April	92.1%	82.3%	70.0%	.....
May	90.6%	81.6%	69.4%	.....
June	87.3%(	80.7%	72.3%	.....
July	81.8%(c	77.3%	64.9%	.....
August	82.9%(c	81.5%	70.9%	.....
September	78.7%(c)	80.5%	71.9%	58.2%
October	.....	87.6%	75.6%	64.7%
November	.....	88.0%	75.3%	61.7%
December	.....	85.9%	71.2%	59.6%
Year Average	.....	81.3%	70.5%	.....
Year to Date First 39 weeks	87.0%	79.3%	69.4%	.....

COMPARATIVE WEEKLY SUMMARIES

CURRENT WEEKS, 1937		CORRESPONDING WEEKS, 1936	
*September 4	80.7%	September 5	81.0%
*September 11	(h)68.7%	September 12	(h)71.2%
*September 18	84.3%	September 19	85.7%
*September 25	82.4%	September 26	84.3%
*October 2	77.0%	October 3	85.3%

The following statistics show the number of mills reporting by ratio groups:

	Number of Mills Reporting, Current Weeks				
Ratio Limits	Sept. 4, 1937	Sept. 11, 1937	Sept. 18, 1937	Sept. 25, 1937	Oct. 2, 1937
0% to 50%	71	107	76	77	56
51% to 100%	247	211	223	227	158
Total Mills Reporting.	318	318	299	304	214

* Subject to revision until all reports are received.
(c) Basic capacity data have been adjusted to correspond with ratings reported by individual companies.

PAPERBOARD OPERATING RATIOS

According to reports from the National Paperboard Association, per cents of operation, based on "Inch-Hours," were as follows:

Mos.	1937	1936	1935	1934	Mos.	1937	1936	1935	1934
Jan.	80%(e)	61%	61%	....	July	67%(e)	69%	59%	....
Feb.	86%(e)	67%	67%	....	Aug.	74%(e)	75%	65%	....
Mar.	87%(e)	68%	67%	....	Sept.	....	76%	69%	62%
Apr.	89%(e)	70%	61%	....	Oct.	....	82%	76%	63%
May	86%(e)	68%	61%	....	Nov.	....	79%	70%	56%
June	75%(e)	68%	65%	....	Dec.	....	74%	60%	52%

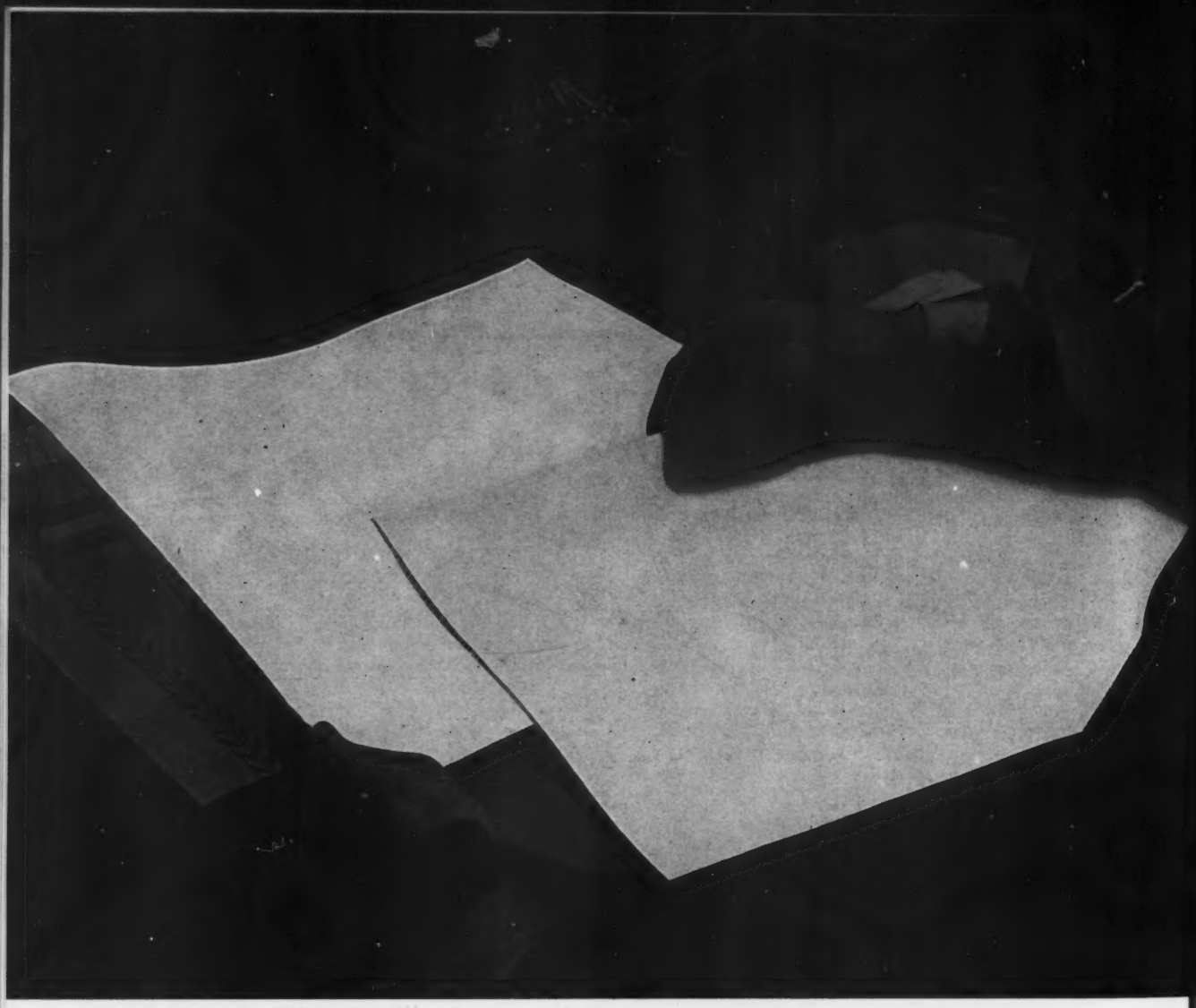
Week end. Sept. 4, 1937—73%
Week end. Sept. 11, 1937—59%(h)
Week end. Sept. 18, 1937—73%
Week end. Sept. 25, 1937—70%
Week end. Oct. 2, 1937—71%

(e) Basic figures revised to include new members of the National Paperboard Assn.
(h) Holiday week: percentages based on six days' operation.

To Start Paper Mill in Uruguay

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., October 13, 1937—According to a recent announcement a company has been formed in Uruguay for the manufacture of paper. This is included in a report from Vice Consul Hector C. Adam, Jr., Montevideo. The principal ingredients are to be chaff, straw, and old paper. The factory is located at Mercedes, some 175 miles from Montevideo, and is owned by Mercedes residents. The principal object of the owners is to convert waste local products into a useful article. Because Uruguay protects paper with a high duty and there is a lack of adequate local manufacture, a group of Mercedes residents have seen an opportunity to fulfill a need of the country while at the same time providing an outlet for otherwise useless farm products, most of which they as landowners produced themselves. The owners claim to have invested 300,000 pesos (peso—.7925 United States currency) in their plant. Sufficient machinery for commencement of operations has already been purchased from Germany and shortly after its arrival in October operations are to begin.



Better Color Is Always in Demand

And many manufacturers are enjoying greater sales by meeting the demand with papers made whiter with Zinc Sulphide Pigments. Papers that are more opaque, too, with less "show through" to tire the eye or divert the mind.

Several types of such papers are being featured by progressive dealers. And all the types are identified by this improved color which bespeaks quality and which makes them attractive to the consumer.

Through the wide range of Cryptone and Albalith Zinc Sulphide Pigments, the paper manufacturer is offered a convenient means of producing these new papers of better color and opacity.

If such characteristics are of interest in your market, we shall appreciate an opportunity to discuss your problem with you. Our Research Department is the largest in the world devoted to the development and application of white pigments.

THE NEW JERSEY ZINC COMPANY
160 FRONT ST., NEW YORK

ZINC SULPHIDE PIGMENTS IN PAPER

Section of the

Technical Association of the Pulp and Paper Industry

Edited by Ronald G. Macdonald, Secretary

United States Patents on Paper Making

Third Quarter, 1937

Compiled by Clarence J. West, Chairman, Committee on Abstracts and Bibliography, TAPPI

The following list of patents has been compiled from the current numbers of the Official Gazette of the United States Patent Office. Since, as a rule, only one claim is published in the Gazette, it is not claimed that the list is complete.

Copies of any of the following patents may be obtained from the Patent Office, Washington, D. C., by sending ten cents ($0.10) for each patent desired. Personal checks and postage stamps are not accepted in payment for patents. Books of coupons containing 20 coupons may be purchased for $2.00 and books containing 100 coupons may be purchased for $10.00.

JULY 6, 1937

2,085,764. Ornamented wallboard for outside weatherproofing. Leslie S. Odell, assignor to Bird and Son., Inc., East Walpole, Mass. Filed Dec. 31, 1931. 9 claims. (Cl. 20-5). A fiber board base with a superstructure of asphaltic roofing secured to one side.

2,085,766. Method of making bags and the like. Adolph Potdevin, and George E. Hampton, assignors to Potdevin Machine Company, Brooklyn, N. Y. Filed Sept. 29, 1934. 21 claims. (Cl. 93-35).

2,085,816. Moistureproof film. Frederick M. Meigs, assignor to E. I. du Pont de Nemours and Company, Wilmington, Del. Filed May 3, 1934. 6 claims. (Cl. 91-68). Moistureproofing composition for non-fibrous, transparent cellulosic sheet comprising a hydrorosinate, a wax material and a cellulose derivative.

2,085,874. Safety paper and method of making same. Francis L. Simons, assignor to George La Monte and Sons, Nutley, N. J. Filed Feb. 4, 1935. 8 claims. (Cl. 91-67.95). The paper has incorporated therein a primary mono-amino diphenyl.

2,086,067. Screen plates for paper making machines. Ralph E. Cleveland, Waterbury, Conn. Filed Aug. 22, 1935. 6 claims. (Cl. 92-31).

2,086,117. Coating casting machine. Lynn B. Case, assignor to John Waldron Corporation, New Brunswick, N. J. Filed Dec. 24, 1935. 10 claims. (Cl. 91-49). A roll for motivating a web of material past a coating roll, a coating head including said coating roll, etc.

2,086,126. Method of making strip gum papers. John Stephen Gilchrist, assignor to McLaurin-Jones Co., Brookfield, Mass. Filed June 16, 1934. 2 claims. (Cl. 91-68). The entire area of one surface of a web of paper is coated, the coating dried and non-adhesive waterproof material is applied as spaced-apart strips to the gum coating.

2,086,178. Watermarking pellicle. James E. Snyder, assignor to E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Jan. 15, 1934. 5 claims. (Cl. 18-48). A pellicle of regenerated cellulose bearing a watermark, imparted to the sheet by impressing the pellicle during the drying thereof and while the pellicle still retains 45 to 19% moisture based on the weight of the dry pellicle plus softener.

2,086,179. Wrapping. Edward H. Angier, assignor to Edward H. Angier, Framingham, Mass., as trustee, designated as Angier Laboratories. Filed Dec. 16, 1933. 2 claims. (Cl. 206-46). A creped paper base of the kraft type having rubber adherent thereto in narrow spaced strips longitudinally of the band.

2,086,191. Attachment for rotary web presses for printing wax carbon spots on paper. George A. Rutkoskie, assignor to The McBee Company, Athens, Ohio. Filed Oct. 5, 1935. 4 claims. (Cl. 91-50).

2,086,196. Machine for cutting and feeding blanks to body forming machines. Charles V. Strickland and William O. Morgan, assignors to R. J. Reynolds Tobacco Company, Winston-Salem, N. C. Filed March 27, 1933. 19 claims. (Cl. 164-48).

2,086,232. Production of sulphur dioxide. Charles A. MacDonald, assignor to General Chemical Company, New York, N. Y. Filed Oct. 9, 1934. 4 claims. (Cl. 75-9). Method of roasting metal sulphide ores.

2,086,375. Method of and apparatus for handling sheetlike material. John F. Baier and Herman Bohl, New York, N. Y. Filed June 13, 1936. 10 claims. (Cl. 93-84).

2,086,418. Treatment of cellulosic bodies. James Karr Hunt and George Henry Latham, assignors to E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Sept. 4, 1934. 7 claims. (Cl. 91-68). Fibers and fibrous manufactures thereof of cellulose and regenerated cellulose having a surface coating of 0.25-5% of a polycyclic phenol having at least two non-condensed carbocyclic nuclei.

2,086,419. Process of treating cellulose bodies. James Kerr Hunt and George Henry Latham, assignors to E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Sept. 4, 1934. 6 claims. (Cl. 91-68). Textiles consisting of regenerated cellulose, etc., having a deposit of 0.25-5% of a soluble thiocyanate selected from a group consisting of alkali metal thiocyanates and ammonium thiocyanate.

2,086,476. Web cutting mechanism. Cecil George Quick, William Edward Bennison and David Arthur Harling Alexander, assignors to R. Hoe and Co., Inc., New York, N. Y. Filed July 16, 1935. 9 claims. (Cl. 164-60).

JULY 13, 1937

2,086,757. Method and apparatus for manufacturing absorbent pads. Harrison R. Williams, New York, N. Y. Filed April 10, 1929. 23 claims. (Cl. 154-29).

2,086,792. Process of and composition for waterproofing permeable material. Constantine F. Fabian and Alexander N. Sachanen, assignors to The Non-Mercuric Carrot Company, Danbury, Conn. Filed March 4, 1935. 6 claims. (Cl. 91-68). A volatile fluid vehicle containing a viscous refined petroleum oil, ceresin wax and a relatively larger amount of paraffin wax and solid fatty acid.

2,086,793. Composition for waterproofing permeable material. Constantine F. Fabian and Alexander N. Sachanen, assignors to The Non-Mercuric Carrot Company, Danbury, Conn. Filed March 9, 1935. 3 claims. (Cl. 134-15). A sulphurated blend of ceresin wax and paraffin wax and at least about an equal amount of a sulphurated viscous refined petroleum oil.

2,086,862. Wallboard. John Fletcher, assignor to Plastergon Wall Board Company, Buffalo, N. Y. Filed Aug. 22, 1935. 12 claims. (Cl. 91-68). A sheet of open pore, fiber insulating board impregnated with a stiffening rosin solution and having an adherent surface coating of a mixture containing calcined gypsum and a resin solution in which the impregnating resin is soluble.

2,086,903. Grease repellent paper. Carleton Ellis, assignor to Ellis-Foster Company, Montclair, N. J. Filed March 14, 1928. 24 claims. (Cl. 91-70). A paper coated or impregnated with a poly-basic organic acid-polyhydric alcohol resin containing a higher fatty acid in chemical combination.

2,087,013. Coated article and method of making same. Dorothy E. Bateman, assignor to E. I. du Pont de Nemours and Company, Wilmington, Del. Filed June 19, 1934. 16 claims. (Cl. 91-70). The material is treated with an aqueous solution of a member of the class consisting of salts and esters capable of yielding an insoluble, inorganic oxide, effecting the conversion of said member to said oxide and precipitating said oxide and applying over said oxide a surface coating which normally does not adhere strongly to said sheet.

2,087,015. Agitator. Joseph E. Bond, Middletown, Ohio. Filed April 4, 1935. 8 claims. (Cl. 92-37). An agitator for mixing stock.

2,087,094. Metallic finish. John Dorman McBurney and Edgar Hugo Nollau, assignors to E. I. du Pont de Nemours and Company, Wilmington, Del. Filed March 21, 1936. 8 claims. (Cl. 91-70). Production of high metallic luster on paper, etc.

2,087,097. Manufacture of pulp rovings. John C. Sherman, Attleboro, Mass. Filed March 4, 1936. 14 claims. (Cl. 92-39). Means for individually rubbing into rod-like form a plurality of spaced parallel pulp-ribbons.

2,087,209. Moisture impervious package for explosive compositions. Richard W. Lahey and Floyd J. Rape, assignors to American Cyanamid and Chemical Corporation, New York, N. Y. Filed May 16, 1936. 5 claims. (Cl. 229-55).

JULY 20, 1937

R20,542. Manifolding paper. John Q. Sherman, Dayton, Ohio. Original No. 1,897,013, dated Feb. 7, 1933. Application for reissue Dec. 18, 1936. 19 claims. (Cl. 282-12).

2,087,260. Homogeneous piled surface. Louis P. Miller, assignor to Research Corporation, New York, N. Y. Filed April 18, 1935. 13 claims. (Cl. 91-68). Attenuated fibers of a cellulosic derivative are deposited in a layer of an adhesive composition including a substance having a solvent action on said cellulosic derivative and the adhesive layer indurated.

2,087,263. Cellulose pulping system and product thereof. Fredrich Olsen, assignor to The Cellulose Research Corporation. Filed Feb. 4, 1935. 8 claims. (Cl. 260-101). The pulp is prepared in such a way that the cellulose is associated with at least 20% of a wetting medium preserving the cellulose penetrable and permeable.

2,087,345. Manufacture of window envelopes. Vincent E. Heywood, assignor to United States Envelope Company, Springfield, Mass. Filed Aug. 31, 1933. 4 claims. (Cl. 93-61).

2,087,394. Self-sealing and self-locking carton and blank for the same. Joseph F. Babineau, Chicago, Ill. Filed Nov. 18, 1936. 6 claims. (Cl. 229-16).

2,087,441. Laminated fibrous structure and method of producing same. Harold G. Metcalf and Kenneth H. Bowen, assignors to Columbia Rope Company, Auburn, N. Y. Filed June 17, 1935. 7 claims. (Cl. 154-2). A plurality of elongated fibers are arranged in substantially parallelism, a binder is applied and the fibers united in a unitary body of tape-like formation and the surface coated with comparatively short fibers; finally lengths of said fiber are laminated into sheet-like form.

2,087,444. Method of and apparatus for making bags and the like. Adolph Potdevin, assignor to Potdevin Machine Company, Brooklyn, N. Y. Filed Oct. 10, 1934. 14 claims. (Cl. 93-8).

2,087,469. Coating composition. William Chalmers, assignor to Roehm and Haas Company, Philadelphia, Pa. Filed Jan. 14, 1936. 11 claims. (Cl. 134-26). A solution of a member of the group consisting of the polymerized lower esters and nitrile of alpha-methylacrylic acid.

2,087,482. Receptacle making method and apparatus. Albert H. Schmidtke, assignor to St. Joseph Iron Works, St. Joseph, Mich. Filed Sept. 28, 1935. 6 claims. (Cl. 93-47). Apparatus for making flaring walled containers from adhesively coated blanks.

2,087,556. Stuff treatment apparatus. Charles P. Tolman, assignor to The Noble and Wood Machine Co., Hoosick Falls, N. Y. Filed March 28, 1934. 13 claims. (Cl. 92-26). A refining engine for paper pulp having a casing, a rotor with working face on its outer periphery, independent bedplates, hydraulic means and valve mechanism to control hydraulic means to vary the effective pressure of each plate against the rotor.

2,087,557. Material treating apparatus. Charles P. Tolman, assignor to The Noble and Wood Machine Co., Hoosick Falls, N. Y. Filed April 2, 1937. 12 claims. (Cl. 92-26). A junk discharg-

ing port in combination with stuff treating instrumentalities, including means for moving obstructing material away from the place where it accumulates in the machine.

2,087,558. Stuff treatment apparatus. Charles P. Tolman, assignor to The Noble and Wood Machine Co., Hoosick Falls, N. Y. Filed Jan. 12, 1937. 18 claims. (Cl. 92-26). Delivering stock under pressure into contact with a portion of the peripheral surface of a high speed rotor provided with transverse peripheral grooves. The contents of each groove are subjected to defibering and finishing action and then discharged from the treatment zone with a decrease of pressure.

2,087,559. Stuff treatment apparatus. Charles P. Tolman, assignor to The Noble and Wood Machine Co., Hoosick Falls, N. Y. Filed Jan. 12, 1937. 3 claims. (Cl. 92-26). Means for feeding material to a treating zone, a discharge port for passing trash from obstructing the inlet and a nozzle for directing a jet against the trash to facilitate its removal through the port.

2,087,560. Stuff treatment apparatus. Charles P. Tolman, assignor to The Noble and Wood Machine Co., Hoosick Falls, N. Y. Filed Jan. 12, 1937. 1 claim. (Cl. 92-26). Combination of a rotor having transverse peripheral grooves alternating with lands, each groove having its maximum depth near the trailing edge with a diminishing depth gradient toward the leading edge producing stream line land and groove contours around the rotor periphery.

2,087,561. Material treating apparatus. Charles P. Tolman, assignor to The Noble and Wood Machine Co., Hoosick Falls, N. Y. Filed April 14, 1931. 22 claims. (Cl. 83-14). Means for forming with the rotor a plurality of independently operably treatment zones, means for feeding the material to the inlet end of each zone and for discharging it from the outlet end of each zone.

2,087,605. Envelope machine. Abraham Novick, assignor to F. L. Smithe Machine Co., Inc., New York, N. Y. Filed April 28, 1932. 20 claims. (Cl. 93-61).

2,087,609. Manufacture of transparent sheet material. George A. Richter, assignor to Brown Company, Berlin, N. H. Filed Feb. 25, 1933. 3 claims. (Cl. 8-20). Treating a copper oxide-filled cellulose fiber sheet with ammonia to convert the cellulose fiber into cuprammonium cellulose gel and precipitating the gel in situ in the sheet to form regenerated cellulose and copper oxide, removing the copper oxide from the sheet and drying the resulting sheet.

2,087,704. Bag machine. Adolph Potdevin, assignor to Potdevin Machine Company, Brooklyn, N. Y. Filed Sept. 12, 1935. 31 claims. (Cl. 93-26).

2,087,870. Apparatus for treating material. Joseph W. Boles, assignor to Electro-Fibre Corporation, Cleveland, Ohio. Filed April 1, 1937. 15 claims. (Cl. 92-24). A beater, the metallic bars of which are permanently or temporarily magnetizable.

July 27, 1937

2,088,031. Paper cartridge and method of and means for treatment thereof. Hobson F. Miller, Oceanside, N. Y. Filed June 27, 1934. 4 claims. (Cl. 91-68). In preparing a paper roll for use in high speed printing machinery, the ends are coated with a penetrating liquid which hardens to a moisture-resisting solid.

2,088,345. Automatic feeding device for feeding sheets of paper. Wilhelm Ritzerfeld, Berlin, Germany. Filed Sept. 6, 1935. 5 claims. (Cl. 271-42).

2,088,402. Resurfacing machine for paper making machine suction boxes. John A. Borck, assignor to Eastwood-Neally Corporation, Belleville, N. J. Filed Aug. 16, 1935. 1 claim. (Cl. 51-34).

2,088,447. Woven wire belt for paper making machines. Harry G. Specht, assignor to Encor Corporation, Belleville, N. J. Filed March 23, 1936. 2 claims. (Cl. 245-8). Woven wire fabric for paper making machines comprising interwoven warp and weft shoots, each comprising a pair of weft wires, with knuckles produced in both the warp and weft wires.

2,088,448. Woven wire belt for paper making machines. Harry G. Specht, assignor to Encor Corporation, Belleville, N. J. Filed March 23, 1936. 6 claims. (Cl. 245-8). Interwoven fine gauge warp and weft wires with knuckles produced in both the warp and weft wires.

2,088,449. Woven wire belt for paper making machines. Harry G. Specht, assignor to Encor Corporation, Belleville, N. J. Filed March 23, 1936. 1 claim. (Cl. 245-8). Interwoven fine gauge warp and twisted cable weft wires with knuckles produced in both the warp and weft wires.

2,088,479. Method of making a gum deflocculant from gum karaya and like for paper fiber and the product. Thomas R. Le Compte, assignor to John A. Manning Paper Company, Inc., Green Island, N. Y. Filed March 7, 1934. 21 claims. (Cl. 87-2). The gum is treated with an alkali to deacetylate it without otherwise altering its molecular structure.

2,088,524. Process of producing absorbent paper. Louis Leonard Larson and George Lewis Schwartz, assignors to The Celastic Corporation, Arlington, N. J. Filed Aug. 1, 1934. 2 claims. (Cl. 92-13). Wood pulp is cooked under pressure at a temperature of 170-190 deg. C. with 2-4% caustic soda solution and a pulp consistency of 2.5-4.5% for 0.5-3 hours until the freeness has increased to at least 20%.

August 3, 1937

2,088,764. Stencil sheet. Otto Schenck, Dessau-Anhalt, and Kurt Stickdorn, Rosslau-Anhalt, Germany. Filed March 23, 1934. 5 claims. (Cl. 41-38.6). The coating composition consists of a cellulose ester and higher molecular weight alcohol from the group consisting of dodecyl, octadecendiol, octadecandiol, ricinoleyl and linoleyl alcohols.

2,088,847. Machine for punching, drawing or likewise forming of articles of paper, cardboard, etc. Wilhelm Drese, Dusseldorf, Germany. Filed Sept. 15, 1936. 11 claims. (Cl. 164-41).

2,088,893. Paper. Leroy C. Cates, assignor to S. D. Warren Company, Boston, Mass. Filed Oct. 9, 1935. 10 claims. (Cl. 92-68). Process of making a varnishing grade of uncoated paper by moistening at least one surface of an evenly formed paper web and supercalendering before the moisture has had time to penetrate and soften more than the surface layers of the paper, with the softened surface against the metal supercalender rolls.

2,089,034. Method of making laminated products. James V. Nevin, Aberdeen, Wash. Filed Aug. 12, 1935. 3 claims. (Cl. 144-309). The material is impregnated with an aqueous solution of a resinous partial condensation product, dried, humidified to 20-40% of moisture content and laminated.

2,089,087. Wallboard. John Fletcher, assignor to Plastergon Wall Board Company, Buffalo, N. Y. Filed Aug. 15, 1935. 7 claims. (Cl. 154-45.9). Wallboard has its interior zone framed by a marginal nailing zone which has been impregnated with a stiffening agent.

August 10, 1937

2,089,293. Safety paper. Clifford Paine and Jack Augustus Radley, assignors to Imperial Chemical Industries Limited, a Corporation of Great Britain. Filed Aug. 5, 1935. 17 claims. (Cl. 91-67.95). There is incorporated within the paper a 4,4'-di(benzoylamino)stilbene-2,2'disulphonic acid compound.

2,089,308. Record material testing machine. John L. Sullivan, assignor to International Business Machines Corporation, New York, N. Y. Filed May 21, 1935. 6 claims. (Cl. 177-311). A machine for testing non-conducting record material for imperfections which permits conduction through the material.

2,089,426. Surface coated abrasive material. Thomas M. Richmond, assignor to Modern Engineers, Inc., Chicago, Ill. Filed May 9, 1935. 7 claims. (Cl. 51-280). In an article like sandpaper, an adhesive comprising asbestos cement, zinc oxide, sodium silicate and water.

2,089,469. Paper web joining member. Lawton A. Dix, New York, N. Y. Filed June 22, 1933. 6 claims. (Cl. 154-42).

2,089,480. Paper coating composition and process. Clark C. Heritage, assignor to Oxford Paper Company, Rumford, Maine. Filed Oct. 26, 1932. 8 claims. (Cl. 134-18). A slurry of a base pigment is mixed with water and with hydrated lime (more than 5 per cent of the filler) and treated with alum, so as to leave a portion of the lime free.

2,089,513. Folding and wrapping machine. Edward M. Vaser, assignor to Emil K. Rahke, Indianapolis, Ind. Filed July 26, 1935. 20 claims. (Cl. 270-23).

2,089,524. Machine for and method of making coated sheet material. Allen Abrams and Charley L. Wagner, assignors to Marathon Paper Mills Company, Rothschild, Wis. Filed Sept. 16, 1935. 5 claims. (Cl. 91-55). An apparatus for coating frangible web material with thermoplastic composition, comprising a driven roll, a heated doctor blade and a chill roll close to the first roll to chill the paper quickly after being coated.

2,089,525. Machine for and method of making coated sheet material. Allen Abrams, George W. Forcey and Robert A. Farrell, assignors ta Marathon Paper Mills Company, Rothschild, Wis. Filed Sept. 5, 1936. 6 claims. (Cl. 91-12). A coating apparatus employing spaced metal strips placed between a heated roll and a heated doctor blade to control the thickness and spacing of coating applied to the web material, and a chilled roll around which the material is passed.

2,089,697. Electrical insulation and method of making the same. Fritz Groebe, assignor to General Electric Company, Schenectady, N. Y. Filed June 14, 1935. 6 claims. (Cl. 91-70). Cellulosic material is impregnated with the reaction product of phosphoric acid and urea.

2,089,713. Process for making bituminous compositions. Rayerus Nicolaas Jan Saal, assignor to Shell Development Company, San Francisco, Calif. Filed March 22, 1937. 7 claims. (Cl. 106-31). A silicious mineral aggregate is treated with an aqueous solution of an iron salt which is insoluble in mineral oil and the aggregate is enveloped with a bitumen.

2,089,722. Carton forming machine. John G. Vergobbi, assignor to Pneumatic Scale Corporation, Limited, Quincy, Mass. Filed Nov. 2, 1936. 3 claims. (Cl. 93-44.1).

2,089,898. Production of corrugated cardboard. Felix Kaeppler, Freiberg-in-Saxony, Germany. Filed Aug. 14, 1935. 1 claim. (Cl. 154-30). A pair of helically milled heatable embossing rollers and a plain roller for pressing the web of material to be embossed.

2,089,925. Rubber impregnated fibrous material. Stephen B. Neiley, assignor to Dewey and Almy Chemical Company, North Cambridge, Mass. Filed April 5, 1935. 6 claims. (Cl. 91-68). A web is saturated with latex, the rubber constituents of the latex are caused to migrate away from one surface of the web and a layer adjacent thereto and into the body of the web, the latex is coagulated by release of an active coagulant distributed throughout the web, finally drying the web.

August 17, 1937

2,089,949. Process of coloring paper. Pierre Drewsen, assignor to The Hinde and Dausch Paper Company, Sandusky, Ohio. Filed May 6, 1935. 7 claims. (Cl. 101-153). Method of surface dyeing.

2,089,992. Continuous bleaching process and apparatus. John Campbell, Lancelot O. Rolleston and George A. Smith, assignors to International Paper Company, New York, N. Y. Filed March 14, 1932. 9 claims. (Cl. 8-2). Comprises continuously forcing a body of cellulosic material in a substantially dry, solid, tightly packed mass through a reaction chamber, withdrawing the air and introducing a gaseous bleaching agent.

2,090,002. Gerald Haywood, assignor to West Virginia Pulp and Paper Company, New York, N. Y. Filed July 9, 1934. 5 claims. (Cl. 91-68). Use of 10-40% of calcium sulphite as filler and a surface size of starch, glue and casein applied to at least one face, said sized surface being calendered.

2,090,077. Apparatus for testing materials. Carl Busch Thorne, Hawkesbury, Ontario, Canada. Filed Feb. 7, 1936. 4 claims. (Cl. 73-51). Testing the amount of fibers contained in the waste water of pulp mills.

2,090,084. Manufacture of wallboard. Curry Ora Walper, Hamilton, Ontario, Canada. Filed June 1, 1935. 1 claim. (Cl. 154-2). A board having a quick-setting core and enclosing paper liners adhering thereto.

2,090,116. Machine for making sanitary napkins. Charles A. Fourness and Charles J. Greiner, assignors to International Cellucotton Products Company, Chicago, Ill. Filed Aug. 14, 1936. 6 claims. (Cl. 154-29).

2,090,130. Slitting and winding machine. John J. Kittel, St. Albans, N. Y. Filed May 18, 1931. 5 claims. (Cl. 242-66).

2,090,131. Apparatus for conditioning paper. Lydia B. Koch, New York, N. Y. Filed Dec. 8, 1934. 2 claims. (Cl. 34-19). Means for controlling temperature and humidity of air.

2,090,307. Bag making machine. Adolph Potdevin, assignor to Potdevin Machine Company, Brooklyn, N. Y. Filed Nov. 20, 1934. 13 claims. (Cl. 271-2.6).

2,090,308. Method of making bags. Adolph Potdevin, assignor to Potdevin Machine Company, Brooklyn, N. Y. Filed Nov. 20, 1934. 4 claims. (Cl. 93-35).

2,090,578. Colloidal mill. William Eppenbach, Grenwolde, Great Neck, Long Island, N. Y. Filed July 10, 1934. 4 claims. (Cl. 83-13).

August 24, 1937

2,090,630. Casein solution. Carl Iddings, assignor to The Muralo Company, Inc., New York, N. Y. Filed Dec. 8, 1933. 20 claims. (Cl. 134-12). The solution is prepared with heat and fluoride, and having its viscosity adjusted by a liquid lower aliphatic hydrocarbon derivative selected from the group consisting of alcohols, ethers, esters, and ketones displaying a greater viscosity reducing effect upon the solution than an equal amount of water and not impairing the stability of the solution.

2,090,699. Molded pulp bottle. Paul Plunkett, assignor to Pulp Products Company, Inc., New York, N. Y. Filed Dec. 4, 1934. 8 claims. (Cl. 229-4.5).

2,090,966. Electrochemistry. Wilhelm Sailer, assignor to The Mead Research Engineering Company, Dayton, Ohio. Filed March 21, 1932. 2 claims. (Cl. 204-1). A lignin material which has been subjected to an oxidizing treatment is used for electroplating.

2,090,124. Method of and apparatus for making extruded products. Burns A. Stewart, assignor to The Patent and Licensing Corporation, New York, N. Y. Filed Aug. 9, 1929. 12 claims. (Cl. 154-2). Waterproof extruded products using a bituminous plastic mass.

2,091,125. Apparatus for making extruded products. Burns A. Stewart, assignor to The Patent and Licensing Corporation, Boston, Mass. Filed Nov. 28, 1930. 9 claims. (Cl. 25-17).

2,091,180. Process for treating paper products. Paul La Frone Magill, assignor to E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Oct. 20, 1933. 16 claims. (Cl. 91-70). Paper is treated with a substantially homogeneous composition comprising paraffin wax and polymerized dihydronaphthalene resin.

August 31, 1937

2,091,252. Stereotype matrix and production thereof. George W. Bungay, assignor to Bungay-type-Deleware, Inc., New York, N. Y. Filed Nov. 8, 1934. 9 claims. (Cl. 41-25).

2,091,253. Method and apparatus for making matrices. George W. Bungay, assignor to Bungay-type-Deleware, Inc., New York, N. Y. Filed June 26, 1935. 9 claims. (Cl. 101-12).

2,091,325. Production of casein glue and casein glue preparation. Walther Luetzkendorf, assignor to I. G. Farbenindustrie Aktiengesellschaft, Frankfort-on-the-Main, Germany. Filed May 10, 1934. 15 claims. (Cl. 134-23.9). Casein is decomposed with an alkali metal silicate.

2,091,513. Method of digesting cellulosic material. Albert D. Merrill, Watertown, N. Y. Filed Feb. 14, 1935. 26 claims. (Cl. 92-11). Method of recirculating acid from and to the digester and a storage vessel.

2,091,517. Paper or like tube. Walter Everett Molins and Ernst Curt Muehlbauer, Deptford, London, England. Filed March 23, 1936. 16 claims. (Cl. 93-82).

2,091,572. Paper manufacture. Joseph H. Swan, III, assignor to The Gardner-Richardson Company, Middletown, Ohio. Filed Feb. 15, 1934. 1 claim. (Cl. 91-18). Method of coating with roll and brush.

2,091,795. Apparatus for making bags and the like. Adolph Potdevin, assignor to Potdevin Machine Company, Brooklyn, N. Y. Filed Sept. 11, 1936. 11 claims. (Cl. 93-33).

2,091,796. Method of making bags and the like. Adolph Potdevin and George E. Hampton, assignors to Potdevin Machine Company, Brooklyn, N. Y. Filed Sept. 11, 1936. 5 claims. (Cl. 93-35).

2,091,805. Paper making method and machine. Harry A. Chuse, Madison, Wis. Filed Oct. 6, 1934. 9 claims. (Cl. 92-38). Partically drying the sheet before pressing by carrying the sheet between heated felts while forcing large volumes of heated air through and thereafter drying the sheet by successively forcing large volumes of heated air through the paper.

2,091,918. Insulating material. Joseph L. Finck, Washington, D. C. Filed Oct. 17, 1932. 1 claim. (Cl. 154-45). A corrugated fibrous sheet material and a facing of a flat sheet of metal foil.

2,091,926. Drier fabric. Harold N. Hill, Philadelphia, Pa. Filed May 5, 1936. 7 claims. (Cl. 139-420). A drier fabric having a surface section made up of threads, each having an inner core of vegetable fibers and an outer covering layer of asbestos fibers.

SEPTEMBER 7, 1937

2,092,013. Envelope machine. Abraham Novick, assignor to F. L. Smithe Machine Co., Inc., New York, N. Y. Filed Nov. 13, 1933. 13 claims. (Cl. 93-61).

2,092,263. Pulp stock agitation. John A. Rosmait, Manistee, Mich. Filed May 31, 1935. 19 claims. (Cl. 92-37). A storage chest for pulp stock and apparatus for agitating the stock.

2,092,292. Carton making machine. Claude M. Stitt, assignor to Fibreboard Products, Inc., San Francisco, Calif. Filed Dec. 23, 1936. 20 claims. (Cl. 93-49).

2,092,382. Method of forming boxes. John S. Stokes, assignor to Stokes and Smith Company, Summerdale, Philadelphia, Pa. Filed March 14, 1935. 15 claims. (Cl. 93-54.2).

2,092,477. Conductor insulated with cellulose material. Thomas R. Scott and Malcolm C. Field, assignors to Western Electric Company, Incorporated, New York, N. Y. Filed Jan. 15, 1932. 5 claims. (Cl. 173-264). The paper layer consists of cellulose fibers which have been converted into partial ethers without materially affecting their mechanical structure.

2,092,628. Hydrator. Carlton H. Allen, Glens Falls, N. Y. Filed Dec. 1, 1932. 4 claims. (Cl. 92-26). Apparatus for hydrating paper stock.

2,092,651. Method of manufacturing pull match packages and apparatus therefor. Willy Lueck, assignor to Pullmatch Incorporated, New York, N. Y. Filed June 29, 1936. 13 claims. (Cl. 93-2).

2,092,798. Process and apparatus for the manufacture of paper. Edgar Alexander Charlton, assignor to International Paper Company, New York, N. Y. Filed Dec. 17, 1934. 5 claims. (Cl. 92-45). A paper making wires, rolls provided with vibratory devices located at spaced intervals under said wire and in contact therewith and means to drive said rolls at differential speeds with respect to the speed of said wire.

SEPTEMBER 14, 1937

2,092,809. Stiffness tester. Ralph A. Masten, assignor to International Paper Company, New York, N. Y. Filed March 23, 1933. 3 claims. (Cl. 265-17).

2,092,817. Impregnated cigarette. Daniel E. Strain, assignor to E. I. du Pont de Nemours and Company, Wilmington, Del. Filed May 18, 1935. 7 claims. (Cl. 131-36). The paper is treated with a composition containing 0.5-2.5% of a resinous polymer of a compound of the general formula $RC(:CH_2)CO_2R_1$, where R is a member of a group composed of hydrogen and a monovalent hydrocarbon radical and R_1 is a monovalent organic radical derived from a monohydric alcohol by removal of the hydroxyl therefrom.

2,092,821. Device for continuously beating paper pulp and the like. Wilhelm Thaler, assignor to American Voith Contact Co., Inc., New York, N. Y. Filed Jan. 18, 1935. 2 claims. (Cl. 92-22).

2,092,858. Bag and method of making same. Charles F. Richard, assignor to Johnson Automatic Sealer Co., Ltd., Battle Creek, Mich. Filed March 12, 1934. 13 claims. (Cl. 93-35).

2,092,862. Paper machine slitter knife. Albert John Thibedeau, Ottawa, Ontario, Canada. Filed Aug. 20, 1935. 6 claims. (Cl. 164-60).

2,092,952. Paper interfolding machine. Samuel J. Campbell, Green Way, Wis. Filed Nov. 26, 1934. 22 claims. (Cl. 270-39).

2,092,966. Fibrous sheeting and process of preparing the same. Joseph H. Gay, West Orange, and John A. Wilson, Elizabeth, N. J. Filed Nov. 22, 1934. 2 claims. (Cl. 92-68). Method of splitting a sheet into a plurality of thinner sheets and burnishing that face of each sheet next adjacent the knife.

2,092,967. Decorative sheeting and process of preparing the same. Joseph H. Gay, West Orange, Ralph G. Jackson, Woodbury, and John A. Wilson, Elizabeth, N. J. Filed Dec. 22, 1934. 18 claims. (Cl. 41-17).

2,093,105. Adhesive. Ivan Wolff, New York, N. Y. Filed Nov. 1, 1935. 5 claims. (Cl. 134-17). Rubber latex and powdered mica; for self-sealing envelopes.

2,093,221. Device for applying liquid adhesives to paper and similar materials. Alfred Winkler and Max Dünnebier, Neuwied, Germany. Filed Oct. 3, 1935. 12 claims. (Cl. 91-43).

2,093,241. Machine for making match cards. William C. Huguley, Belleville, N. J. Filed Feb. 21, 1935. 1 claim. (Cl. 144-51).

2,093,267. Treatment of fibrous material. Thomas L. Dunbar, assignor to Chemipulp Process, Incorporated, Watertown, N. Y. Filed Nov. 20, 1934. 3 claims. (Cl. 92-7). In a digester, means to separate liquor from the material and a gas relief line and a control valve in conjunction with said separating means.

2,093,290. Art of making leatherboard. Herman W. Richter, assignor to George O. Jenkins Company, Bridgewater, Mass. Filed April 6, 1936. 6 claims. (Cl. 8-2). Leatherboard containing irontannate ink is subjected to the action of a solution containing an arsenic acid.

2,093,337. Manufacture of sized papers. Oscar F. Neitzke, assignor to Bennett Incorporated, Cambridge, Mass. Filed March 23, 1935. 14 claims. (Cl. 92-21). An emulsion of substantially involatile, thermoplastic, pyrogeneous residue, obtained from the distillation of the liquid resin separated from spent alkaline pulping liquor resulting from the pulping of pulpwood.

2,093,347. Means for applying dope to paper. Chester E. Beecher, De Pere, Wis. Filed July 18, 1935. 3 claims. (Cl. 91-50).

SEPTEMBER 21, 1937

2,093,478. Apparatus for removing steam from grinders. Frank W. Partsch, assignor to J. O. Ross Engineering Corporation, New York, N. Y. Filed Jan. 29, 1934. 1 claim. (Cl. 83-75).

2,093,613. Process of and machine for making book matches. Willy Lueck, assignor to Pullmatch, Incorporated, New York, N. Y. Filed June 29, 1936. 11 claims. (Cl. 93-2).

2,093,640. Composite molded product and method and apparatus for making same. Richard Millenaar, assignor to The Richardson Company, Cincinnati, Ohio. Filed Sept. 5, 1935. 21 claims. (Cl. 154-1).

2,093,715. Priming coating. Carleton Ellis, assignor to Ellis-Foster Company, Montclair, N. J. Filed Feb. 3, 1930. 12 claims. (Cl. 91-68). An article of manufacture carrying a plurality of coating layers, one of which is a priming coat containing a natural resin-polybasic acid-polyhydric alcohol complex.

2,093,738. Sensitized blue print paper and coating therefor. Alger P. Reynolds, assignor to Spaulding-Moss Company, Boston, Mass. Filed Feb. 25, 1936. 10 claims. (Cl. 95-7).

2,093,852. Sheet abrasive material and method of manufacturing the same. Fritz Simon, assignor to Norddeutsche Schleifmittel-Industrie G.m.b.H., Altona-Lurup, Germany. Filed Dec. 20, 1934. 1 claim. (Cl. 51-278). Material passed through a bath of sulphuric acid, then through a bath of glycerol and grape or starch sugar, then coating with a binding agent and adding an abrasive.

SEPTEMBER 28, 1937

2,094,038. Steam drier system. Alfred G. Kerrin, assignor to Mosinee Paper Mills Company, Mosinee, Wis. Filed Aug. 24, 1936. 2 claims. (Cl. 34-48). Means for supplying steam to a drier system having a plurality of steam driers and conduits for the removal of condensate and steam therefrom.

2,094,111. Drier. Charles C. Willis, assignor to John Waldron Corporation, New Brunswick, N. J. Filed May 17, 1934. 4 claims. (Cl. 91-55). Means for coating a web of material on both sides and drying same in a drying chamber having a number of passes and means for changing web from a vertical to a horizontal plane preliminary to winding.

2,094,112. Vertical coater. Charles C. Willis, assignor to John Waldron Corporation, New Brunswick, N. J. Filed May 17, 1934. 7 claims. (Cl. 91-49). Roll coating device.

2,094,148. Felt and method of making. Bela Freyer, assignor to American Felt Company, New York, N. Y. Filed July 20, 1935. 3 claims. (Cl. 28-1).

2,094,150. Method of producing colored roofing. Jeremiah D. Giles, New York, N. Y. Filed Dec. 13, 1935. 9 claims. (Cl. 91-70). Asphalt-coated material is sprayed, while still hot, with an enamel comprising a thermo-setting resin.

2,094,348. Method of coating. Frank P. Carlson, New York, N. Y. Filed July 17, 1934. 7 claims. (Cl. 91-68).

2,094,349. Coating and feeding device. Frank P. Carlson, New York, N. Y. Filed May 8, 1935. 7 claims. (Cl. 91-50).

2,094,371. Fiberboard. Carl G. Muench, New Orleans, La. Filed Sept. 29, 1934. 7 claims. (Cl. 92-39). A decorative fiberboard.

2,094,415. Paper pleating machine. Fred Schwartz, assignor to Fort Howard Paper Company, Green Bay, Wis. Filed May 6, 1935. 3 claims. (Cl. 154-30).

2,094,428. Adherent-backed flexible material and method of making same. Ashley Fulton, assignor to The Leaton Corporation, Hinsdale, Ill. Filed Feb. 7, 1936. 3 claims. (Cl. 154-40).

2,094,455. Box wrapping machine. Ludwig H. Lange, assignor to Stokes and Smith Company, Summerdale, Philadelphia, Pa. Filed June 22, 1936. 14 claims. (Cl. 93-54.2).

2,094,500. Joint for wire fabrics. Otto Carl Scherfel, assignor to Audubon Wire Cloth Corporation, Philadelphia, Pa. Filed Aug. 5, 1936. 8 claims. (Cl. 245-6).

Starts Transparent Cellulose Plant

A new manufacturing concern known as the Nippon Film Kogyo has completed its installation of equipment for the manufacture of transparent cellulose sheeting at a plant in the Shiga prefecture, Japan. The proposed output of the new plant is 2,500 reams per month. Another concern, the Tokyo Cellophane Company, Ltd., started production at its new plant at Oji on the outskirts of Tokyo. When the entire plant extensions are carried out this company will have a capacity of approximately 1,500 reams per month. Three other companies are now in a position to enter into the production of transparent cellulose sheeting. The Nichiman Cellophane Company, one of the latest to enter the field, will shortly put into operation its mill at Miye prefecture, with a designed capacity of 5,000 reams a month. The second plant of the Takasaki Cellophane Company in the Saitama prefecture expects to put a machine in production with a capacity of 800 reams per month in the near future. A second machine will also go into service early in autumn. The Showa Chemical Industrial Company, which was compelled to suspend operations because of the unfavorable conditions last summer, is now ready to resume activity aided by financial support of the powerful Okura Shoji Kaisha.

This concern aims at a monthly production of 2,000 reams at its plant in the Aichi prefecture.

Swedish Wall Board Production Increased

Preliminary statistics of the Swedish industrial production for the calendar year 1936 show an increase in wall board production from 48,685 metric tons in 1935 to 62,950 metric tons in 1936, according to a report from Commercial Attache Charles E. Dickerson, Jr., Stockholm.

A Study of the Ether Soluble Material In Sulphite Pulp from Southern Pine*

Charles Carpenter[1]

Abstract

Sulphite pulping of the unseasoned sapwood of the three Southern pines (Loblolly, P. taeda, Longleaf, P. palustris and Slash P. heterophylla) removes approximately 60 per cent of the ether soluble material present initially in the wood. Blowpit washing and lapping of the stock on an Oliver filter effects the removal of an additional 20 per cent. The lapped pulp contains from 1 to 2 per cent of ether soluble material. The refining or bleaching of such pulp is liable to be accompanied by pitch difficulties.

When a dilute suspension of unbleached pulp containing 1 to 2 per cent ether soluble material is passed one or more times over an inclined wire, the ether extract is reduced to 0.6 per cent or less. With pulps containing so little of ether soluble material refining and bleaching may be prosecuted with reasonable immunity from pitch difficulties. The reduction in extractable material entails a fibre loss of 2 to 6 per cent and the use of 30,000 to 50,000 gallons of water per ton of pulp. The white water contains ray cells, epithelial cells, fragments of fibers and considerable dirt. Approximately 20 per cent of the effluent is soluble in ether.

Both the ether soluble material of the effluent and the ether soluble portion of pine sulphite pitch are dark brown, viscous oils. The oils have iodine, saponification and acid numbers of the same order.

The oil from the effluent consists of approximately 70 per cent fatty acids, 7 per cent resin acids, 7 per cent unsaponifiable matter and 1 per cent glycerol. The fatty acids are principally of the unsaturated type. Calcium and sulphur are present in the oil only in traces.

It is the purpose of this paper to recite briefly the experiences with pitch in sulphite pulping and subsequent processing of unseasoned sapwood from longleaf (*P. palustris*), loblolly (*P. taeda*), and slash pine (*P. heterophylla*) at the Pulp and Paper Laboratory of Savannah. The work in this direction has been carried out over a period of five years under the direction of various members of the staff. It is the privilege of the author to summarize now the experiments and observations made up to this date.

General

In the unseasoned sapwood of the three pines, slash, longleaf and loblolly, the per cent ether soluble material varies between 2 and 8 per cent. Average percentages are given in Table I.

These figures are based on the analyses of 40 wood shipments comprising approximately 400 cords of green wood. Loblolly pine, a non-turpentining species, has a higher ether extract than the turpentining species, longleaf and slash pine. These averages agree substantially with those reported by Kurth and Sherrard (*13*) for slash pine and by Kurth (*14*) for longleaf pine. The per cent ether soluble material in young pine is approximately twice that of unseasoned spruce (Sieber, *21*).

TABLE I.—PER CENT ETHER SOLUBLE MATERIAL IN SOUTHERN PINE WOODS (SAPWOOD) AND SULPHITE PULPS—AVERAGE VALUES

Species	Ave. Diameter (Barked)	Per Cent Ether Soluble (Sawdust)	Per Cent Ether Soluble—Pulps (Oliver Lap)	
			Unbleached	Bleached
Loblolly (P. taeda)	4½"	4.6	2.1	0.7
Longleaf (P. palustris)	5 "	4.3	1.7	0.7
Slash (P. heterophylla)	4¼"	2.8	1.5	0.7

In the third column of Table I is listed the average per cent of ether soluble material in the corresponding unbleached sulphite pulps. Extractions refer to laps taken off the Oliver filter. Differences in the wood are reflected roughly in the per cent extractable material of the unbleached pulps.

In column 4 are listed average values for bleached pulps. Differences of ether solubility between the three species practically disappear after bleaching.

The ether solubility of the same species varies considerably, however, from wood shipment to wood shipment. This is illustrated in Table II.

TABLE II.—PER CENT ETHER SOLUBLE MATERIAL IN SOUTHERN PINE WOODS (SAPWOOD) AND SULPHITE PULPS—SPECIFIC VALUES

	Rings/inch	Month Cut	Per Cent Ether Soluble	Per Cent Ether Soluble—Pulps		Remarks
				Unbleached	Bleached	
Loblolly						
131	1.9	February	3.6	..	..	
134	2.2	March	5.8	..	..	
112	1.8	April	5.0	2.5	1.8 Na 1.0 Ca	Pitch Pitch
115	1.7	June	4.3	1.9	1.0	
126	2.1	December	4.5	..	..	
Longleaf						
107	5.2	January	3.1	1.4	0.7	Sticky
128	3.8	January	5.8	..	..	
132	3.9	February	3.9	..	..	
135	3.5	March	4.2	..	..	
110	4.7	April	3.8	1.9	0.9	Pitch
113	3.4	May	4.7	1.7	1.0	Sticky
117	3.9	July	6.1	1.4	..	
119	4.6	July	3.1	1.1	..	
Slash						
129	2.5	January	3.6	..	..	
108	2.2	February	2.1	1.1	0.5	Pitch
120	1.7	August	2.4	1.1	..	

In the case of loblolly pine the variation as listed is from 3.6 to 5.8 per cent in the case of longleaf pine from 3.1 to 6.1 per cent; and in the case of slash pine from 2.1 to 3.6 per cent. For each shipment are shown the rate of growth (indicated by the rings per inch) and the month in which the wood is cut. A seasonal variation of the ether soluble content of the wood does not appear to exist. Rate of growth and per cent ether extract can, however, be correlated. This correlation is illustrated by shipments No. 107 and 128 longleaf pine, cut in January. The rapidly grown—No. 128 has a higher extract than that of the more slowly grown wood No. 107. Shipments Nos. 117 and 119 substantiate this observation. The faster grown woods have in general a higher ratio of springwood to summerwood than the slower grown. Kurth and Sherrard

* Presented at the Annual Meeting of the Technical Association of the Pulp and Paper Industry, Waldorf-Astoria Hotel, New York, N. Y., Feb. 22-25, 1937.

[1] Member TAPPI; Chemist of the Pulp and Paper Laboratory, Savannah, Ga.

(*13*) point out the high percentage of ether soluble material in slash pine high in springwood.

Table II shows the variation of ether soluble material in unbleached and bleached pulps. Only a very approximate relation exists between the ether solubility of the wood and that of the unbleached pulp. The values reported here for the southern pines are slightly lower than those reported for jack pine sulphite (Neilson, *15*). The remarks refer to observations noted during the bleaching of the pulps. Two stocks are reported as sticky. In others the appearance of pitch is noted. With pulp from shipment No. 112 pitch is developed with both soda and calcium base bleaches.

Effect of Storage and Drying

Storage of pulpwood over a period of a few months is without consistent effect in reducing the per cent extractable material. A shipment of unseasoned Slash pine stored four weeks is found to decrease approximately one-third in ether soluble material, while no decrease is evidenced in a shipment of loblolly pine stored three months. The data are given in Table III.

TABLE III.—EFFECT OF STORAGE ON PER CENT ETHER SOLUBLE MATERIAL

PULPWOOD	Per Cent Ether Soluble (green)	Per Cent Ether Soluble (after storage)	Time of Storage
133 Slash	6.8	4.4	4 weeks
134 Loblolly	5.8	5.8	3 months

CHIPS	Per Cent Ether Soluble (chips)	Per Cent Ether Soluble (pulp)
Longleaf—		
Green	4.7	1.7
Air dry	1.3	0.5

SAWDUST—dried in oven						
Longleaf—Hours dried	0	2	6	12	24	72
Per Cent Ether Soluble	4.6	3.8	3.5	3.5	3.0	2.4

LAPPED PULP	Per Cent Ether Soluble (Original)	Per Cent Ether Soluble (after 3 months)
287 Longleaf	1.6	1.4
295 Loblolly	2.0	1.5

Reports of the effects of storage of spruce wood are also inconsistent. Sieber *(21)* and others recommend storage for alleviation of pitch troubles while Brauns *(1)* finds it ineffective.

Storage of chips is effective in reducing the amount of ether soluble material in both the chips and the pulp therefrom. This is illustrated in the second division of Table III. Air drying of green longleaf chips reduces the ether extract approximately 60 per cent. The ether extract of the pulp cooked from the dry chips is so low that freedom from pitch troubles is assured. Similar treatment is recommended for spruce chips (Kress and Moss, *12*).

Drying of chips at temperatures above the normal is also effective in reducing the content of the ether soluble material. The effect of drying sawdust at 100 deg. C. is shown in the third division of Table III. 72 hours at this temperature reduces the ether soluble content to one-half of its original value. Drying of spruce chips with warm air has been proposed to alleviate pitch trouble (Kress and Moss, *12*).

Storage of the pulp itself over a reasonable period reduces the ether soluble content to some extent. The data of the last division of Table III indicate that this method is only to a certain degree effective.

Washing

Following washing in the blowpit the pulp has an ether soluble content of 2 to 3 per cent. Further washing over the Oliver reduces this value to 1 to 2 per cent. Rewashing over the same machine does not consistently lower the ether extract below 0.9 or 1.0 per cent (Table IV).

TABLE IV.—EFFECT OF SPECIAL WASHING ON PER CENT ETHER SOLUBLE MATERIAL

	Per Cent Ether Soluble Material—Pulp from:			
		Stock from Oliver:		
	Blowpit	1 time	2 times	3 times
324 Longleaf	..	1.5	0.9	0.8
323 Slash	2.3	1.1	0.9	..

	Per Cent Ether Soluble Material—Pulp from:				
		Screen Pocket			
	Blowpit	20	35	65	100
442 Longleaf	2.4	0.2	0.6	0.8	1.9

Washing with:	Per Cent Ether Soluble Material—Oliver Lap
Hot water	1.0-2.0
Soft water	1.0-2.0
Ammonia water	1.0-2.0

Washing with hot water, soft water and ammonia water in the blowpit removes further amounts of ether soluble material. However, the ether extract of pulps so washed is not lower than that of stock washed first with cold artesian[3] water and then lapped on the Oliver filter. This observation is in accordance with the divergent opinions in the literature regarding the efficacy of these special methods of washing (Brauns, *1;* Fitzgerald *4*).

Removal of Fines

The bulk of the ether soluble material occurs in the fine fractions of the pulp (Richter, *16;* Shur and Webber, *20;* Hall, *5;* Samuelson, *19;* Edge, *3;* Haworth, *8;* Lampen, *23*). The fines may be removed by passing the highly diluted pulp over an inclined wire or perforated plate. In this operation the shorter cells and fragments of fibers pass through the perforations while the longer elements fall to the foot of the screening surface. The efficiency with which the fines are removed is dependent chiefly upon the possibility of the effluent to drain through the pulp before a mat is formed. With the formation of the mat the shorter cells are retained and the purpose of the operation is defeated. The building of the mat depends primarily upon the nature of pulp, the consistency of the stock and the perforation and slope of the screening surface. The effect of stock consistency on the removal of fines from the pulp passing over the inclined wire is illustrated by the data reproduced in Table V.

TABLE V.—EFFECT OF VARYING THE CONSISTENCY OF STOCK TO THE INCLINED WIRE ON THE PER CENT ETHER SOLUBLE MATERIAL

Cook No.	Bleach Powder Requirement of Pulp	Per Cent Ether Soluble Material—before Inclined Wire	Per Cent Consistency over Inclined Wire	Per Cent Ether Soluble Material—after Inclined Wire	Per Cent Ether Soluble Material in Fines from Inclined Wire
438	22%	1.8	0.24	0.8	..
			0.10	0.7	24
			0.06	0.5	..
443	18%	1.2	0.4	0.6	17
			0.3	0.5	17
			0.1	0.4	16
436	9%	1.9	0.20	0.9	..
			0.10	0.8	22
			0.08	0.6	..
439	9%	1.2	0.22	0.6	19
			0.14	0.6	19
			0.08	0.6	11
			0.04	0.4	12

The ether soluble material of pulp Nos. 443 and 439 is reduced sufficiently (from 1.2 to 0.6 per cent) by one pass over the inclined wire at consistencies as high as 0.4 and 0.2 per cent respectively. In the case of Nos. 438 and 436 a greater dilution of the stock (0.08 per cent) is necessary to reduce the per cent ether soluble to the same value (0.6). To reduce the ether extract to 0.6 per cent, it is necessary to adjust the consistency of the stock to be screened according to the amount of ether soluble material

[3] Savannah city water; approximate hardness, 100 parts per million; pH ca. 7.6.

present in the pulp before the operation.

Selective "screening-out" of the fines is employed in the processing of special sulphite pulps from spruce both in North America and in Europe (Richter, *16;* Shur and Webber, *20;* Samuelson, *19;* Lampen, *23).* The same process is used on the west coast to remove the coloring matter from sulphite pulp made from western hemlock (Hatch, *7).*

Wood Structure

The fines are essentially the epithelial and ray cells of the wood. The epithelial cells in pine occur in the linear wood rays and in the tissue immediately surrounding the longitudinal and horizontal resin ducts. The horizontal canals occur within the fusiform rays. The epithelial cells are parenchymatous and as such form a network of living cells extending throughout the sapwood of living trees from the cambium inward to the heartwood. These cells are the seat of physiological activity within the stem of the tree. Within them is stored the oily and resinous material of the sapwood from whence it is secreted into the horizontal and longitudinal resin ducts.

The length of the epithelial cells is usually a fraction (1/25 to 1/50) of that of the tracheids (fibers). In pine the wall of the epithelial cell is thinner[8] than that of either the springwood or summerwood tracheid.

The approximate number of fusiform rays and linear rays in slash pine is estimated as 450 of the former and 15,000 of the latter per square inch of tangential surface (Hobert, *10)* The longitudinal resin ducts number about 200 per square inch (cross section) (Hobert, *10;* Anon., *22*).

Figs. 1, 2 and 3 show the detailed structure of southern pine wood. Three cell types are found in pine wood—the longitudinal tracheid, the parenchyma cell and the ray tracheid. The ray tracheid is best illustrated in Fig. 3.

[8] In comparison to pine the epithelial cell walls of spruce are quite heavy.

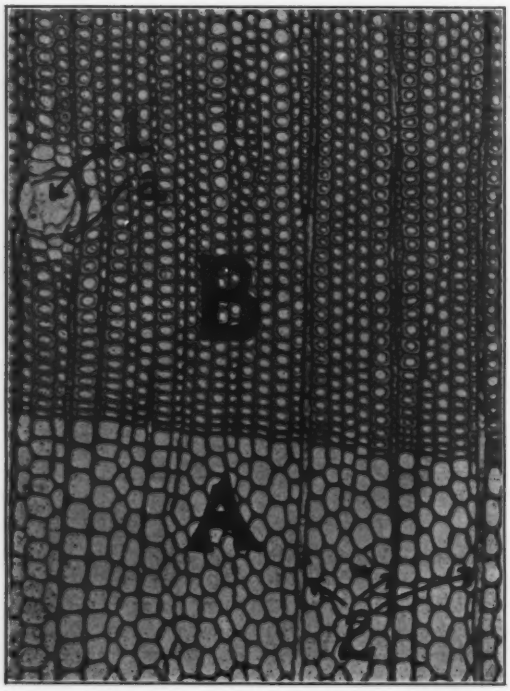


FIG. 1.
Loblolly Pine (P. taeda) Cross Section. × 90.* A—Springwood, B—Summerwood. 1—Longitudinal resin duct: a—Epithelial cells. 2—Linear rays.

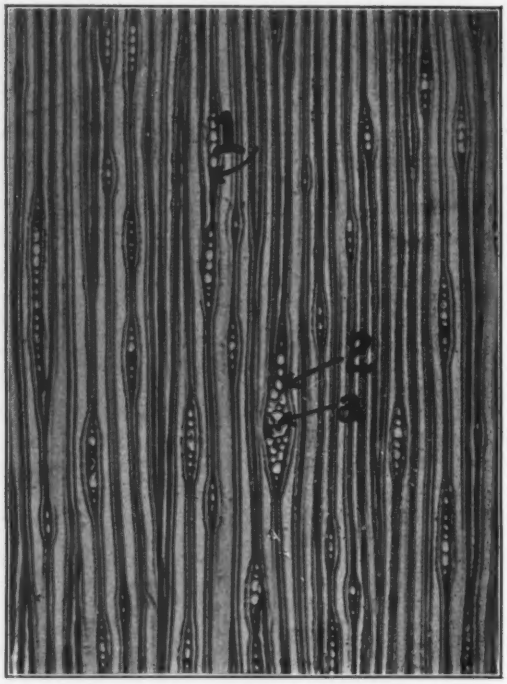


FIG. 2.
Loblolly Pine (P. taeda) Tangential Section. × 90.* 1—Linear ray. 2—Fusiform ray; a—Horizontal resin duct.

* Photomicrographs prepared by the Department of Wood Technology, the New York State College of Forestry, Syracuse, N. Y.

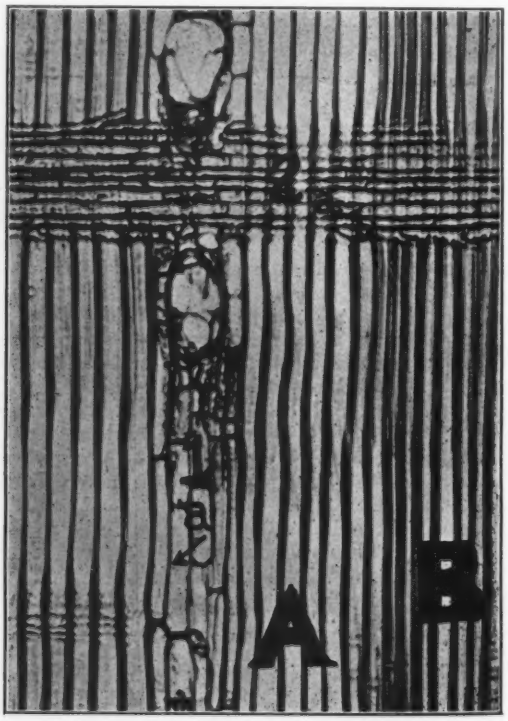


FIG. 3.
Loblolly Pine (P. taeda) Radial Section. × 90.* A—Springwood, B—Summerwood. 1—Longitudinal resin duct; a—Epithelial cells. 2—Linear ray; a—Parenchyma, b—Ray Tracheids.

As the name indicates this is a kind of tracheid found in the linear and fusiform rays. The ray tracheids are lost in washing over the inclined wire together with fragments of longitudinal tracheids and the pitch bearing epithelial cells.

"Ray Cells" and Pulp and Paper Literature

The earlier patents protecting the improvement of sulphite pulps through removal of the pitchy material recognize the fineness of the elements but not the distinctiveness of the cell type (Richter *16;* Shur and Webber *20;* Lampen *23).* In a later paper G. Hall *(5)* recognizes the relation of "ray cells" and pitch and proposes to alleviate the latter difficulty by elimination of the fines. Prompted by Hall's observation Edge *(3)* classifies a spruce sulphite pulp according to fiber sizes and analyses the fractions for ether soluble material. The ether soluble material is concentrated in the finer brackets. The constituents of the ether extract of spruce ray cells are isolated and identified by Haworth *(8).*

Samuelson *(19)* states that the production in northern European countries of certain pitchless sulphite pulps is accomplished through the removal of the fine wood elements. The effect of processing and washing on the number of ray cells in pulp is described by Ritter, Simmons and Eastwood *(17)* and by Ritter, Simmonds and Seborg *(18).* Both Kress and Moss *(12)* and Fitzgerald *(4)* discuss the elimination of pitch by methods based on the separation from the pulp of the shorter oil and resin-containing fibers.

In western hemlock the objectionable coloring matter of the wood is concentrated in the wood rays (Curran, Schafer and Pew *2).* To brighten chemical pulp of the same wood the unbleached stock is freed of the ray cells by washing over an inclined screen (Hatch *7).*

Practice of the Inclined Wire at Savannah

The Pulp and Paper Laboratory employs a narrow strip of 70 mesh fourdrinier wire for separation of the fines. The installation is shown in Fig. 4.

The use of a perforated screen to reduce the number of epithelial cells in the pulp is accompanied by both loss of "fiber" and white water. In Table VI data are given

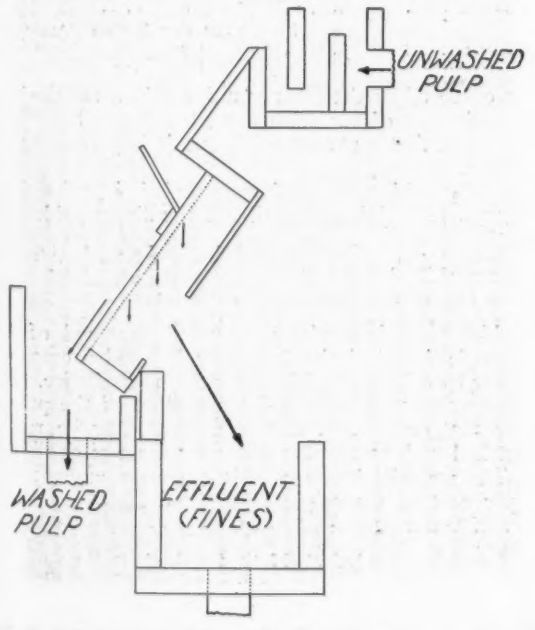


FIG. 4.
Inclined Wire Installation for the removal from pulp of pitch bearing epithelial cells. (Schematic cross-section.)

TABLE VI.—PER CENT CONSISTENCY OF STOCK TO INCLINED WIRE—CONCENTRATION OF EFFLUENT FROM INCLINED WIRE—PER CENT LOSS

Pulp No. 443

		Effluent from Inclined Wire			
Per cent Consistency	Per cent Ether Soluble Material—After Inclined Wire	Grams per Liter	Pounds per 1000 gal.	Per cent Fiber Loss	White Water M Gal. per Ton Pulp
0.4	0.6	0.08	0.67	1.9	56
0.3	0.5	0.09	0.75	2.9	74
0.1	0.4	0.05	0.42	4.4	234

pertaining to fiber loss and volume of water for washing pulp over the inclined wire at various consistencies. Increasing the dilution of the stock decreases the ether soluble material in the pulp off the wire while increasing the loss of fiber and volume of water. For pulp No. 443 a consistency of 0.4 per cent suffices to reduce the ether extract to the satisfactory value of 0.6 per cent. The corresponding losses per ton of pulp are 138 pounds of fiber and 56,000 gallons of white water. The high ether soluble content of the fines in the white water prohibits, of course, the recirculation of this water at any point in the mill where pitch troubles might be detrimental.

If the conditions are such that some of the water in the pulp can leave the stock before a fibrous mat is formed, the removal of the fines can be accomplished at consistencies higher than those reported in either Tables V or VI. Data of such an operation are listed in Table VII.

TABLE VII.—REWASHING OVER THE INCLINED WIRE AT HIGHER CONSISTENCIES

Pulp No. 445

	Per cent Ether Soluble Material—Before Inclined Wire	Per cent Consistency Over Inclined Wire	Per cent Ether Soluble Material—After Inclined Wire	Effluent			White Water
				Grams per Liter	Pounds per 1000 Gal.	Per cent Fiber Loss	M Gal. per Ton Pulp
(1)	2.1	1.24	1.1	0.15	1.25	0.9	14
(2)	1.1	1.37	0.8	0.16	1.33	0.8	12
(3)	0.8	1.40	0.6	0.15	1.25	0.7	11
						Total 2.4	37

Pulp at the consistency of 1.2 to 1.5 per cent is passed over the inclined wire as many times as is necessary to reduce the ether soluble content to 0.6 per cent. The ether extract of pulp No. 445 is reduced to this value by three passes over the wire with a total fiber loss of 2.4 per cent and total white water loss of 37,000 gallons per ton of pulp. These results are comparable to those of No. 436 (0.08 per cent consistency) Table V, wherein the white water loss is 280,000 gallons per ton of pulp. Passes No. 2 and 3 over the inclined wire (Table VII), whereby the total losses of 1.5 per cent of fiber and 23,000 gallons of white water per ton, are comparable to the one pass at 0.4 per cent consistency of pulp No. 443 (Table VI). In the latter case the losses are 1.9 per cent fiber and 56,000 gallons of white water per ton of pulp.

Effect of Removal of Fines

The alleviation of pitch difficulties is the most important effect of the removal of the epithelial cells from the pulp. Secondary to this effect is the betterment of other qualities of the pulp. Pulp so washed is cleaner, is somewhat easier to bleach and gives a brighter bleached sheet. Comparative analytical data of pulps before and after epithelial cells have been washed out are given in Table VIII.

The bleach powder requirement is reduced slightly by passage over the inclined wire. Ash is reduced considerably in the same operation. Of the fines the ether soluble portion is high, usually about 20 per cent. The fines

TABLE VIII.—EFFECT OF THE REMOVAL OF FINES FROM PULP—COMPARATIVE ANALYSES OF PULP AND FINES

	Per cent Ether Soluble Material		Per cent Bleach Powder Requirement		Per cent Ash		Per cent Pentosans	
Pulp	Before Inclined Wire	After Inclined Wire	Before Inclined Wire	After Inclined Wire	Before Inclined Wire	After Inclined Wire	Before Inclined Wire	After Inclined Wire
436	1.9	0.6	11	9	0.6	0.1	4.1	4.1
Fines 436	..	22	..	87[1]	..	5.5[2]	..	3.6[3]

[1] Unextracted, after 4½ hours; under the same conditions ether-extracted fines consumed 70 per cent of bleach powder.
[2] Unextracted; extracted 6.9 per cent
[3] Unextracted; extracted 4.2 per cent.

are dirty gray and practically unbleachable. The ash content of the fines is from 2 to 6 per cent.

Digestion of unseasoned sapwood removes approximately 60 per cent of the original ether soluble content of the wood. Most of this ether soluble material appears as a layer of amber colored oil floating on top of the acid in the digester. A small percentage is dissolved or emulsified in the cooking acid itself. Washing in the blow-pit removes an additional 15 per cent of the original ether extract. A further 7 to 12 per cent is removed on the Oliver filter. A final washing of the stock over the inclined wire brings the percentage of removed material to a total of 92 to 95 per cent. These data are tabulated in Table IX.

TABLE IX.—BALANCE OF ETHER SOLUBLE MATERIAL—WOOD TO PULP

Cook No. 442

	Pounds	Per cent Ether Soluble Material	Pounds of Ether Soluble Material	Per cent of Original Ether Soluble Material Accounted for	Per cent of Original Ether Soluble Material Removed
Wood	513	4.3	22	...	..
Unwashed Pulp	226	3.9	9	40.8	59
Cooking Liquor at Blow	2700	0.02	½	2.3	..
Floating Oil in Digester (calculated weight)	...	...	10	45.5	..
Total	...	...	..	88.6	
Washed Pulp	...	2.4	5½	...	75
Pulp Over Oliver	...	1.9	4	...	82
Pulp Over Inclined Wire	...	0.5	1	...	95

Constituents of the Ether Extract of Fines

The ether extraction of the fines yields a dark brown viscous oil of specific gravity 0.9328 (21 deg. C.). The oil has a pleasant fatty odor.

The separation of the crude oil into its constituents is represented schematically in Fig. 5. The method is in general that described in detail by Hibbert and Phillips *(9)*. The results of the analysis are given in Table X.

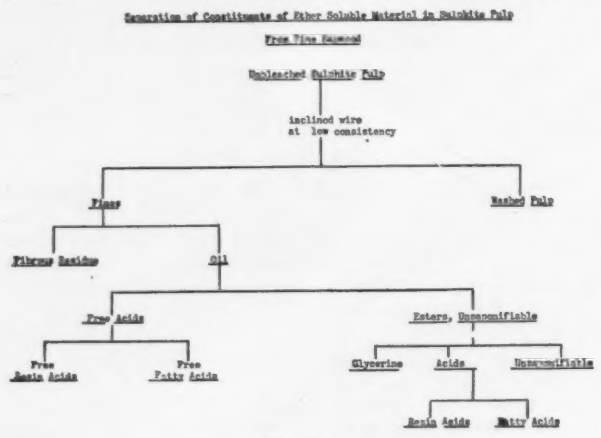


FIG. 5.

TABLE X.—ANALYTICAL DATA: CONSTITUENTS OF ETHER EXTRACT OF EFFLUENT FROM INCLINED WIRE

Constituent	Per Cent Based on: Crude Oil	Effluent	Iodine Number	Saponification Number	Acid Number
Crude Oil	100	20	116	177	63
(1) Essential Oil	None	..	...	...	...
(2) Volatile Acids	Trace	..	...	...	...
(3) Non-Volatile Free Acids	20	4	108	...	164
(4) Glycerides, esters Unsaponifiable	70	14	102	166	...
(3) Non-Volatile Free Acids:					
Resin Acids	5	1	113	...	174
Fatty Acids	15	3	(98	178	ethyl esters)
(4) Glycerides, esters Unsaponifiable:					
Unsaponifiable	7	1.4	not detn.	...	...
Glycerol	0.9	0.18	...	...	...
Acids:	60	12	126	...	187
Resin Acids	2(?)	0.4(?)	not detn.	...	not detn.
Fatty Acids	58	11.6	(123	183	ethyl esters)

Of the crude oil fatty acids constitute approximately 70 per cent, resin acids 7 per cent and unsaponifiable matter 7 per cent. The relative amounts of glycerol (about 1 per cent) and fraction No. 4 (glycerides, esters and unsaponifiable) indicate the presence of waxes in the latter group.

The results of the above analysis are in agreement with those reported elsewhere. Kurth and Sherrard *(13)* find approximately 35 per cent of resin acids and 65 per cent of fatty acids in the saponifiable portion of the ether extract of longleaf sapwood. Hall and Grisvold *(6)* report among other constituents considerable amounts of resin and fatty acids in the growing tips of slash pine. In the ether extract of the fines of spruce sulphite Haworth *(8)* finds 70 per cent fatty acids and 9 per cent resin acids—approximately the same proportions as recorded for pine in Table X.

The ether extract of pine sulphite pitch collected at various points in the mill is very similar to the crude oil extracted from the inclined wire effluent. Both extracts are dark brown viscous oils possessing a characteristic fatty acid odor. The saponification, iodine and acid numbers and the per cent of calcium of each are compared in Table XI.

TABLE XI.—COMPARATIVE DATA: OIL FROM INCLINED WIRE EFFLUENT AND ETHER EXTRACT OF RIFFLER PITCH

	Per Cent Ca	Per Cent S	Saponification Number	Iodine Number	Acid Number	Appearance
Pitch Extract	0.7	..	160	139	48	Dark brown oil
Oil	Trace	0.1	177	116	63	Dark brown oil

The crude oil of the fines contains only a trace of calcium while that of the pitch contains almost 1 per cent. It is possible that a portion of the acids is present as calcium soap.

The fatty acid content of spruce pitch is pointed out by Johnsen *(11)*. Johnsen attributes the disagreeable characteristics of pitch to these acids. Sieber (*21*) expresses a similar opinion.

Summary and Conclusions

Sulphite pulp from the unseasoned sapwood of loblolly, longleaf and slash pines may be made reasonably pitch free by suitable washing over an inclined wire. This washing reduces the ether soluble content of the pulp to 0.6 per cent or less. Pulps so washed may be refined or bleached with reasonable immunity from pitch difficulties. The material losses of this operation amount to 2 to 6 per cent of the original fiber and 30,000 to 50,000 gallons of water per ton of pulp.

Analytical Methods Used

Per Cent Ether Soluble Material: Standard TAPPI Method.
Per Cent Ash: Standard TAPPI Method.
Per Cent Pentosans: Standard TAPPI Method.
Per Cent Bleach Powder Consumption: 50 g. o.d. pulp are mixed with 200 cc. of Ca-base bleach containing approximately 30 g. available Cl₂ per liter and the total volume made up to 1050 cc. The pulp is bleached at 40 deg. C. to a good white (by visual examination) for from 30

minutes to 1 hour. The residual Cl_2 is determined by titration with N/10 sodium thiosulphate.

Per Cent Calcium: Volumetric permanganate method providing for the sulphuric acid oxidation of calcium oxalate.

Per Cent Sulphur: Gravimetric—as barium sulphate upon oxidation by potassium nitrate.

Free Acids: Extraction of the ethereal solution of the crude oil with 5 per cent aqueous sodium carbonate.

Essential Oil and Volatile Acids: Steam distillation of the crude oil.

Resin Acids: Preferential esterification of the acid mixture with H_2SO_4—C_2H_5OH.

Glycerol: Acetin Method.

Iodine Number: Hanus Method.

Saponification Numbers: Saponification with an excess of 0.5 N alcoholic potassium hydroxide; back titration of the residual caustic with 0.5 N HCl.

Acid Number: Titration of the alcoholic solution with 0.5 N alcoholic potassium hydroxide.

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(16) Richter, G. U. S. Patent 755,730 (1924).
(17) Ritter, G. J., Simmonds, F. A., and Eastwood, P. R. Effect of Processing on the Number of Ray Cells in Pulps and Stuffs. *Tech. Assoc. Papers* 14:373-377 (1931).
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(19) Samuelson, S. *Papir J.* (April 6 and 13, 1935).
(20) Shur, M. O., U. S. Patent 1,730,386 (1929); Shur, M. O. and Webber, R. A. U. S. Patent 1,806,421 (1931).
(21) Sieber R. Ueber das Harz der Nadelholzer und die Entharzing von Zellstoffen. Carl Hofmann. Berlin (1925).
(22) A Naval Stores Handbook, U. S. Dept. Agric., Misc. Publ. No. 309 (1935).
(23) Lampen, A. U. S. Patent 1,926,546 (Sept., 1933).

Pulp and Paper Industry Literature Review

Abstracts of Articles and Patents Compiled by the Abstracts and Bibliography Committee of the Technical Association of the Pulp and Paper Industry, A. Papineau-Couture, John F. Ohlson, C. E. Peterson and Clarence J. West, Chairman

Copies of United States Patents can be obtained from the United States Patent Office, Washington, D. C., for 10 cents each. Send currency, not stamps.

Specialties

Boot Boards. H. Postal. Wochbl. Papierfabr. 67 No. 50:959 (Dec. 12, 1936).—The article refers to the method of manufacture of a special kind of hard board which was employed extensively by cloth manufacturers and, to some extent, is still in use for the same purpose. These boards (sometimes up to 10 mm. in thickness) are placed on the heated iron plates of the presses between which the dampened cloth, wrapped around sheets of press pahn, is subjected to pressure in order to give it a high gloss.—C.J.W.

Practical (Hints for Board Makers) A. Ulrich. Wochbl. Papierfabr. 67, no. 52:996-997 (Dec. 26, 1936). —Practical hints are given for prolonging the life of felts in board machines.—C.J.W.

Production of Boards of Fibrous or Pulverulent Substances of Vegetable Origin. H. N. Sköldkvist. Brit. pat. 454,833 (March 3, 1936).—Lignin is added to pulp deficient in lignin, and the pulp pressed to remove water, and cooked at 120°C. to convert the lignin into a waterproof binder.—A.P.-C.

Production of Pressboard from Cornstalks. B. Wingfield, T. R. Naffziger, E. R. Whittemore, C. B. Overman, O. R. Sweezey and S. F. Acree. U. S. Bur. Stand. Misc. Publ. M123, Aug., 1936, 10 pp.—Methods of preparing, removal of extraneous matter, pulping, forming, pressure-drying and sizing are outlined. By cooking for up to 3 hrs. at 140°C. in water and refining mechanically in two stages a uniform pulp was obtained, and the resulting boards had a rupture modulus of 2040 to 7500 lbs. per sq. in. The best strengths were obtained by pressure cooking, and the poorest by mechanical treatment. Optimum pressure-drying conditions at 150°C. and 500 lbs. per sq. in., 40 per cent of the water being expelled and the loss in strength being only 20 per cent; this process is justified by resulting economies in steam. Drying-time control is important in order to avoid blistering and wastage of time due to over-drying, and this was secured by the use of an electrical-resistance method. The best sizing results were obtained by impregnation of the finished board with a solution of paraffin wax or of a halogenated naphthalene in petroleum or carbon tetrachloride, and heating at 150°C. for 30 min. It is more economical to size in the beater, paraffin emulsions or rosin being preferable to asphalt, pitch, or sodium alginate, and giving boards which absorb 20 to 30 per cent of water when immersed for 24 hrs. Wet-mat sizing by pressure at 130° to 150° C., or surface-sizing, is not recommended, although if bakelite varnish is used in the latter case improved appearance, strength and sizing value result.—A.P.-C.

Artificial Leather. The British Shoe Thread and Leather Ming Co., Ltd. Belg. pat. 416,458 (Aug. 31, 1936). —Fibers to be agglomerated with rubber latex are treated at 65° to 70°C. with a 5 per cent chrome oil bath. After drying the fibers are brought in contact with a heated roll where they are impregnated by spraying with a solution of latex and ammonium-resin soap in organic solvents.—A.P.-C.

Miscellaneous

Sorbitol: A New Waterproofing and Plasticizing Agent. A. Matagrin. Papeterie 58: 1077, 1079 (Dec. 10, 1936); 59: 71 (Jan. 25, 1937).—A brief outline of the properties of sorbitol and of its merits as a waterproofing and plasticizing agent for paper.—A.P.-C.

Asbestos and Its Use in Paper Making. Maurice Déribéré. Papier 39: 1055-1057 (Dec., 1936).—A brief outline of the properties of asbestos and its use in paper making.—A.P.-C.

Chemicals for Pulp and Paper. D. B. Scott. Pacific Pulp Paper Ind. 10, No. 8: 14-18 (Aug., 1936).—A brief description of the production of potash, borax, boric acid,

soda ash and salt cake from Searles Lake by American Potash and Chemical Corp.—A.P.-C.

Sulphur Compounds in Paper Making. G. M. Papeterie 58: 914-918, 962-966, 1010-1014, 1058-1062, 1110-1117 (Oct. 25-Dec. 25, 1936); 59: 2-9, 66, 69 (Jan. 10, 25, 1937).—A brief description of the manufacture, properties and method of control of the quality of sulphur dioxide, bisulphite liquors, sodium sulphite, sulphuric acid, sodium and zinc hydrosulphites, sodium thiosulphate, sodium sulphide, sodium bisulphate, sodium sulphate, alum and aluminum sulphate.—A.P.-C.

Paper Mill Slime. George S. Douglas. Pacific Pulp Paper Ind. 10, No. 6: 17-18 (June, 1936).—A brief description of types of slime, sources of paper mill slime, conditions affecting their growth, and laboratory and mill control methods.—A.P.-C.

Automatic Drainage Freeness Control. R. D. Kehoe. Paper Mill 59, No. 50: 20 (Dec. 12, 1936).—Attention is drawn to machinery, based on Schur's U. S. pat. 1,653,-125, for continuous, automatic control of freeness and drainage of pulp in the paper mill.—A.P.-C.

Purification of Wood Pulp. Canadian International Paper Co. Belg. pats. 415,610 and 415,620 (June 30, 1936). *No. 415,610*—An aqueous suspension of the pulp is treated with chlorine in presence of an alkali chloride and then washed with fresh water. *No. 415,620*—The pulp is treated at high consistency with a free alkali in presence of an agent which appreciably reduces the surface tension of the alkaline solution, e.g., oleic acid, sulphonated oils, etc.—A.P.-C.

Calculation of Yield on Sulphite Papers. James Strachan. Paper-Maker 92: TS145-146 (Oct. 1, 1936).—A discussion of the normal losses in the paper making process and of the yield of paper to be expected from a given quantity of air-dry sulphite pulp under proper operating conditions.—A.P.-C.

Paper Standardization. James Strachan. Paper-Maker 92, No. 6: TS177-178 (Dec. 1, 1936).—A brief discussion of standardization of size, color and quality of paper from the paper maker's standpoint, showing that the demand for standardization must come from the consumer or converter rather than from the paper maker.—A.P.-C.

Corrosion Resistant Steels in Sulphite Pulping. F. L. LaQue. Paper Mill 59, No. 49: 13-24 (Dec. 5, 1936).—A summary of the present situation.—A.P.-C.

Clear Water for Pulp and Paper. Kenneth Shibley, Paper Mill 59, No. 52: 18-22 (Dec. 26, 1936).—A brief discussion of the effects of the various kinds of impurities present in natural waters that affect deleteriously the various processes and products involved in the manufacture of pulp and paper.—A.P.-C.

Wastes, Profits and Management. Murray M. Rubin. Pulp Paper Mag. Can. 38: 14-21 (Jan., 1937).—A general discussion of the occurrence, reduction and recovery of manufacturing wastes in the pulp and paper industry.—A.P.-C.

Treatment of Fiberboard Waste. Foster Dee Snell. Ind. Eng. Chem. 29: 238 (Feb., 1937).—Waste from the manufacture of black and red fiberboard from newspaper and rope stock was studied. Filtration was unsatisfactory. The suspended matter amounting to 134 p.p.m. was reduced to 15 p.p.m. by sedimentation for 24 hours. Since the sludge is not offensive in its properties, sedimentation without chemical treatment is recommended.—A.P.-C.

Chemical Engineering in the Pulp and Paper Industries, with Special Reference to Esparto Mills. J. Grant. Inst. Chem. Eng., Advance proof, Dec. 16, 1936, 14 pp.—Points dealt with are the digestion of esparto pulp, soda recovery, bleaching of rag, wood and esparto pulps, beating, formation and drying on the paper machines, finishing processes, effluent disposal, the evaluation of wood pulps, and paper testing.—A.P.-C.

Research in Pulp Industry. Kenneth A. Kobe. Pacific Pulp Paper Ind. 10, No. 6: 15 (June, 1936).—A brief outline of the researches of interest to the pulp and paper industry at present being carried out at the University of Washington.—A.P.-C.

Paper Making and its Problems. I. The Decline of Craftsmanship. James Stevens. World's Paper Trade Rev. 106: 487-490 (Aug. 14, 1936).—II. Progress and the Human Element. Ibid, 106: 642-647 (Aug. 28, 1936).—III. Effluents and Fiber Recovery. Ibid 106: 807-810 (Sept. 11, 1936). IV. Caution Taught by Experience. Ibid, 106: 1044-1048 (Oct. 2, 1936). V. The Veteran Paper Maker Reflects. Ibid 106: 1211-1212 (Oct. 16, 1936). VI Cleanliness and the Personal Element. Ibid 106: 1780-1784 (Dec. 4, 1936).—A.P.-C.

Chemical Engineering Problems in the Manufacture of Paper Makers' Cellulose. J. L. A. MacDonald. Pros. Soc. Chem. Ind., Chem. Eng. Group 17: 100-107 (1935).—The processing of wood, rags and esparto, methods of soda recovery, and the washing and bleaching of the pulp are discussed. Processing in multiple stages is desirable where optimum and (or) special pulp qualities are required. Future advances will be in the direction of continuous digestions and of the recovery of materials of greater value from the waste liquors.—A.P.-C.

Technical Control as Viewed by the Management. George Sisson. Paper Trade J. 103, No. 27: 19-20 (Dec. 31, 1936).—An address.—A.P.-C.

Industrial Dermatitis in the Paper Industry. James Strachan, Paper-Maker, 92: TS129-130 (Sept. 1, 1936).—The conditions giving rise to and cause of dermatitis are briefly indicated. In 30 years' experience in the paper industry, the author came in contact with only 4 genuine cases of dermatitis which could be traced directly to industrial causes, and none of these cases could be included under normal paper making processes. Safety first precautions for the prevention of dermatitis are indicated.—A.P.-C.

Production Follows a Straight Line. Anon. Pacific Pulp Paper Ind. 10, No. 7: 53-80 (July, 1936).—A flow description of the new Weyerhaeuser pulp mill at Everett, Wash.—A.P.-C.

Bank of France Paper Mills. Harry S. Spencer. Paper Industry 18: 745-747 (Dec., 1936).—A brief description of the mill at Vic-le-Comte.—A.P.-C.

Conservation and Use of Low Potential Heat. R. J. Chambers. Pulp Paper Mag. Can. 37: 742-746 (Dec., 1936).—A discussion of the possibility and advantages of recovering the heat resulting from grinding or that leaving the paper machine exhaust stacks.—A.P.-C.

Willamette River Pollution. J. P. Newell. Pacific Pulp Paper Ind. 10, No. 11: 12 (Nov., 1936).—A discussion of Portland's sewage disposal plan.—A.P.-C.

Manufacturing Wastes. C. W. Thomlinson. Pulp Paper Mag. Can. 37: 747-749, 779 (Dec., 1936).—A discussion of the occurrence, reduction and recovery of wastes in the pulp and paper industry.—A.P.-C.

Psychotechnical Selection of Fourdrinier Machine Tenders. Ind. carta 3, no. 9:329-334; no. 10:369-373 (Sept., Oct., 1936).—The study deals with the problem of selecting the right kind of man best adapted for the positions of foremen and paper machine tenders. The author determined the qualifications which are necessary for planning work in the most efficient way and developed certain rapid tests for verifying such qualifications in employees.—C.J.W.

INSTITUTE OF PAPER CHEMISTRY PROSPEROUS

(Continued from page 11)

leadership of Robert F. Rogers of Kimberly-Clark. The students studied methods and costs of obtaining the raw materials for the pulp and paper industry. A similar course is being offered this year to all the first-year men. We have continued the practice of having the second-year men to spend a week in one of the mills working under the direction of Mr. Wheeler. During the past year we inaugurated a new program of practical application. Members of the third-year class worked on an experimental paper machine making book paper, which was used in the August Library Bulletin and which may be used for other Institute publications. The work was under the supervision of Mr. Germanson. Shifts were arranged in order that each man might work at every job from broke boy to machine foreman.

Changes in Curriculum

Beginning with the first-year class this fall we are making some major changes in the curriculum. In the past we have used the first year largely to balance the differences in background of our entering students, some of whom have come with more engineering or chemistry or physics than others and from institutions of varying emphasis. Due to the distinct improvement in ability and background and to a more uniform preparation, we now feel that it is possible to move into the first year, with some reorganization, some of the material formerly covered in the second year and introduce into the general program material hitherto uncovered because of lack of time.

Thus, beginning this fall, the first-year men will study during the first semester wood and other fibrous raw materials and during the second semester pulp (the process of pulping will remain in the second-year program). During the first semester the work is divided into three groups — Wood Technology, Wood Chemistry, and Wood Analysis. In the second semester the special pulp courses include Pulp Analysis, Physical Testing of Pulp, and the Microscopy of Fibers. This change will make possible a correlation between the program of the first and third-year student as the result of which each first-year student will be expected to submit a complete report on the chemical balances involved in three complete cooking operations. Of course, the general background work in physics, which includes Mechanics, Hydraulics, and Heat, in Colloids, and in Organic Chemistry, German, and Bibliography will be continued in the first year.

These changes in the curriculum involve additions rather than substitutions or omissions, except where we are sure that the students come to us with adequate preparation and permit us to omit what formerly was necessary in order to give them the standard background.

The program in the second, third, and fourth years remains very much as it has in the past, with the exception of a new course dealing with the problem of water treatment in the mill.

Degrees Conferred

Last June Lawrence College conferred the degree of Master of Science on 11 students and on six the degrees of Doctor of Philosophy. All students of the Institute obtained positions.

During the past year 773 volumes were added to the Institute library. At present we are subscribing to 158 periodicals of which 11 were added to the list since last September.

Since the last report six new member mills have joined the Institute bringing the total membership to 62. There were no cancellations nor failures to renew contracts on the part of any member during the period.

During the year with the expansion in membership the number of trustees was increased to 12 and in accordance with the recommendation made by Mr. Wriston in his report last year an executive committee was created by the board to act on routine matters between its regular meetings.

Four Important Conferences

There were four important conferences at the Institute during the last fiscal year. The Secretaries' Seminar, November 13 - 15, 1936, included an attendance of ten. The Executives' Conference, June 4 - 5 had a splendid attendance—64 participated on June 4, and 28 were in attendance on the 5th. During the conference 32 member mills were represented. The TAPPI Seminar, June 21 — July 1, was attended by ten. Twenty representatives attended the Qualitative Microanalysis Seminar for member mills which was held August 2 - 11.

Special Lecturers

In addition to these conferences there were a number of special lecturers at the Institute. Charles W. Boyce, executive secretary of the American Paper and Pulp Association, and Royal S. Kellogg of the News Print Service Bureau, delivered a series of lectures on pulp and paper economics. Joseph Rossman, Marathon Paper Mills Company, discussed problems involving patents in the industry. S. F. Shattuck and C. G. Eubank, Kimberly-Clark, led two discussions on "Human Relations in Paper Mill Organization," and H. P. Carruth, Brown Company, discussed problems confronting the technical men in the mills. These lectures and discussions proved extremely beneficial to the students, and it is hoped that we can continue with a similar series during the coming year.

We have had over 2,100 visitors during the past year including people from many foreign countries —Australia, England, Russia, Mexico, Canada, Finland, Norway, Sweden, Germany, the Philippines, and Japan.

Research Projects

The research projects still continue to constitute a very important aspect of the Institute. During the past year we have worked on 139 projects, 46 of which were completed and closed. At the present time there are 93 active projects, 42 of which are Institute projects: 34 are cooperative member projects, and 17 are being pursued for allied industries. Since September, 1936, eighty new projects have been added to our list. Thirty-two member mills

have used the research facilities of the Institute during the past twelve-month period. Of these latter only one-fifth were mills in the immediate neighborhood of the Institute. It is a matter of particular significance that the activities of the Institute increasingly concern the problems of member mills located at a distance from Appleton.

During the past year the board of trustees authorized the licensing of patents developed at the Institute outside of the pulp and paper industry. This policy has implications which may develop into an aspect of our program of considerable importance.

South's Pulpwood Not Inexhaustible

Current developments of the pulp and paper industry in the South are receiving considerable publicity, writes G. D. Cook in the *Forestry News Digest.* The influx of new mills has been of rather spectacular proportions and is likely to have widespread effects of a social, economic, and technical nature, the Federal Forest Service official believes.

This new activity has been brought to the South primarily by the prospects of plentiful raw material, lower wages than exist in the North, and economical water rates from mills to markets. There has been talk of the development of a large newsprint industry using Southern pine, but so far developments have been largely confined to kraft mills making paper by the sulphate process.

In the last two years nine new mills of large size have been built or are now building. Several additional mills are in prospect.

The idea seems to have developed that there is an "inexhaustible" supply of pulpwood in the South. Whether or not this is true depends on a number of factors, Mr. Cook says: How much is on the ground at present, how the timber is to be cut and managed, how fast it will grow, and what the demands for other uses of the timber will be.

In the South as a whole some 140 out of a total of 200,000,000 acres of forest land is classified as pine land. These pine lands are supporting a vast number of wood-using plants and wood industries. Superimposing on these a number of large pulp and paper mills with heavy requirements for raw material will, in many sections, result in intense competition for wood. This in turn will cause serious depletion unless management of the forests is undertaken with a view to maintaining the raw material supply which supports the whole.

In the South generally, growth is far below the capacity of the land to produce wood; probably growth is not more than one-third what it could be under a reasonable degree of forest protection and management.

It is difficult to visualize the magnitude of the requirements of the pulp and paper industry which is developing in the South. Even the fact that the capacity of mills built and building is approximately 3,900,000 cords annually cannot be readily grasped. This amount of wood in cords end to end would build a wall of pulpwood four feet wide and more than four feet high clear around the eleven Southern States.

A recent compilation of data on volume, growth, and drain for some 42,000,000 acres in the deep South showed that growth and drain were about equal—or about eight million cords per year each.

The volume and growth figures include all merchantable volumes whether in operable blocks or scattered trees, and represent also rather complete utilization, which, generally speaking, is not widely practiced. And in addition to the drain shown, will be the drain from pulp and paper mills now building and contemplated.

This picture does not bear out the idea of an "inexhaustible" supply, but the picture can be made to appear as bright or as dismal as those most directly concerned desire to make it.

Each landowner and each wood-using industry should insist that all land of commercial forest quality be kept in or be brought to good productive condition by leaving or developing an adequate growing stock. The public must cooperate so that adequate protection from fire is maintained, inequities in taxation are overcome, and suitable forest credits are provided.

Returns From Good Will Tour of Mills

BOSTON, Mass., October 11, 1937—Miss Myra Dee, managing director of Smith, Dee & Lane, has just returned from a three weeks' goodwill tour of the mills for which the company is the selling agent in New England, in the interests of cooperation and greater production. She brings back the promise of larger volume and prompt shipments. Miss Dee visited the Paper Plate and Tray Company, Chicago, Ill.; Cellulose and Paper Converting Company, Philadelphia, Pa.; Dobeckmun Company, Cleveland, Ohio; Harvey Paper Products Company, Sturgis, Mich.; Indiana Fibre Products Company, Marion, Ind.; Puritan Paper Plate and Products Company, Traumbauersville, Pa.; and St. Joe Mullen Dick Company, St. Joseph, Mich.

Boston Agents of Strathmore Meet

BOSTON, Mass., October 11, 1937.—Sales forces and executives of the four Boston agencies of the Strathmore Paper Company, West Springfield, Mass., about 80 in all, including Carter, Rice & Co., Corporation, Arnold-Roberts Company, Cook-Vivian Company, and Storrs & Bement Company were present at a meeting held at the Parker House Monday afternoon at 5 o'clock. John Zink, vice-president of the Strathmore Paper Company; E. M. Hughes, the sales representative, and Oliver P. Richmond, in charge of envelope sales of the concern, addressed the meeting. Many beautiful specimens of work produced on Strathmore papers were shown and discussed. The meeting was followed by a buffet supper.

Big Increase in Used Machinery Sales

Used equipment sales at Shartle Brothers, Middletown, Ohio for the last twelve months ending with August have increased 165 per cent over the same period last year, according to a statement made by Adam E. Bridge, sales manager of the company.

10 additional acres of ground have been purchased for storage facilities, making a total of 25 acres in all. The additional space was made necessary by the increase in volume, Mr. Bridge said.

"Feature of our sales for the last year was the selling of no less than 10 used paper machines. Furthermore, present sales lead us to believe that even that figure will be surpassed in 1938."

Imports of Paper and Paper Stock

Giving Manifests of New York, Boston, Philadelphia and Other Ports, of Newsprint, Wrapping, Writing, Coated, Blotting, Tissue, Strawboard, Wallboard, Cigarette Papers, Sulphite, Kraft and Ground Wood Pulp.

NEW YORK IMPORTS

WEEK ENDING OCTOBER 9, 1937

SUMMARY

Cigarette paper ..... 714 cs.
Paper hanging .....32 boxes, 51 ctns.
Newsprint ..... 3661 rolls
Printing paper ..... 6 cs.
Wrapping paper ..... 789 rolls, 123 bls., 1 cs.
Packing paper ..... 21 bls., 95 cs.
Drawing paper ..... 4 cs.
Filter paper ..... 27 cs.
Surface coated paper ..... 128 crates, 10 cs.
Coated paper ..... 2 cs.
Decalcomania paper ..... 54 drums (duplex)
Colored paper ..... 3 cs.
Tissue paper ..... 4 cs.
Card board ..... 42 bls.
Miscellaneous paper ..... 468 rolls, 147 bls., 133 cs.

CIGARETTE PAPER

A. Dunhill, Inc., *Queen Mary,* Southampton, 2 cs.
H. H. Strauss, *Ile de France,* Havre, 221 cs.
Champagne Paper Corp., *Ile de France,* Havre, 489 cs.
De Mauduit Paper Corp., *Ile de France,* Havre, 2 cs.

PAPER HANGINGS

W. H. S. Lloyd & Co., *American Trader,* London, 2 cs., 9 bls.

NEWSPRINT

H. G. Craig Co. Inc., *G. D. D.,* Donnacona, 305 rolls.
N. Y. Evening Journal, *Markland,* Liverpool, N. S., 629 rolls.
N. Y. Tribune, *Markland,* Liverpool, N. S., 1951 rolls.
N. Y. Telegram, *Markland,* Liverpool, N. S., 594 rolls.
Brooklyn Daily Eagle, *Markland,* Liverpool, N. S., 262 rolls.
Westchester Newspapers, Inc., *Markland,* Liverpool, N. S., 45 rolls.
Parsons & Whittemore, Inc., *Markland,* Liverpool, N. S., 291 rolls.
H. G. Craig Co., Inc., *Kermic,* Donnacona, 304 rolls.
———, *Bergensfjord,* Oslo, 300 rolls.
Perkins Goodwin & Co., *Hamburg,* Hamburg, 326 rolls.

PRINTING PAPER

Oxford University Press, *Scythia,* Liverpool, 6 cs.

WRAPPING PAPER

Dunham & Reeve, Inc., *Kungsholm,* Gothenburg, 123 bls., 125 rolls.
Chase National Bank, *Kungsholm,* Gothenburg, 237 rolls.
Guaranty Trust Co., *Kungsholm,* Gothenburg, 327 rolls.
Japan Paper Co., *Gerolstein,* Antwerp, 1 cs.

PACKING PAPER

A. J. Bullinger, *Black Hawk,* Rotterdam, 8 cs.
———, *Gerolstein,* Antwerp, 21 bls.
———, *Hamburg,* Hamburg, 87 cs.

DRAWING PAPER

H. Reeve Angel & Co. Inc., *American Trader,* London, 2 cs.
Keuffel & Esser Co., *American Trader,* London, 2 cs.

FILTER PAPER

H. Reeve Angel & Co. Inc., *American Trader,* London, 18 cs.
E. H. Sargent & Co., *Kungsholm,* Gothenburg, 1 cs.
———, *Hamburg,* Hamburg, 8 cs.

SURFACE COATED PAPER

Globe Shipping Co., *Hamburg,* Hamburg, 128 crates.
Moller Kokeritz & Co., *Bremen,* Bremen, 10 cs.

COATED PAPER

W. J. Byrnes, *Queen Mary,* Southampton, 2 cs.

DECALCOMANIA PAPER

B. F. Drakenfeld & Co., *American Shipper,* Liverpool, 54 drums, (duplex)

COLORED PAPER

D. C. Andrews & Co., *Bremen,* Bremen, 3 cs.

TISSUE PAPER

B. F. Drakenfeld & Co., *American Shipper,* Liverpool, 4 cs.

CARDBOARD

Salwen Paper Co., *Kungsholm,* Gothenburg, 42 bls.

MISCELLANEOUS PAPER

The Borregaard Co. Inc., *Kungsholm.* Gothenburg, 341 rolls.
F. L. Kramer & Co., *Kungsholm,* Gothenburg, 90 rolls, 147 bls.
Keuffel & Esser Co., *Hamburg,* Hamburg, 122 cs., 37 rolls.
———, *Ile de France,* Havre, 11 cs.

RAGS, BAGGING, ETC.

Castle & Overton, Inc., *Uruguayo,* Buenos Ayres, 605 bls. rags.
Chase National Bank, *Kalinin,* Leningrad, 1787 bls. rags.
E. J. Keller Co. Inc., *Tiradenses,* ———, 118 bls. rags.
———, *American Shipper,* Manchester, 64 bls. paperstock.
Castle & Overton, Inc., *Volendam,* Rotterdam, 375 bls. bagging.
R. Blank, *Volendam,* Rotterdam, 99 bls. rags.
J. Cohen & Sons Co., Inc., *Scythia,* Liverpool, 16 bls. rags.
Manufacturers Trust Co., *Scythia,* Liverpool, 13 bls. rags.
Chase National Bank, *Gerolstein,* Antwerp, 147 bls. jute-waste.
Manufacturers Trust Co., *Pr. Polk,* Bombay, 100 bls. cotton waste.
Royal Manfg. Co., *Pr. Polk,* Bombay, 50 bls. cotton waste.
E. J. Keller Co. Inc., *Black Gull,* ———, 247 bls. bagging.

GLUE STOCK, ETC

American Express Co., *Scythia,* Liverpool, 450 bags hidecuttings.
———, *Saturnia,* Trieste, 250 bags boneglue.

OLD ROPE

Banco Comi Italiane Trust Co., *Tiradentes,* Rotterdam, 94 coils.
———, *Tiradentes,* Rotterdam, 66 coils.
E. J. Keller Co. Inc., *American Trader,* ———, 42 coils.
American Express Co., *American Shipper,* Manchester, 28 bls.

CHINA CLAY

Orbis Products Trading Co., *Scythia,* Liverpool, 448 bags.

WOOD PULP

Absorbo Beer Pad Co., *Saturnia,* Trieste, 200 bls. wood pulp.
Bulkley Dunton Pulp Co. Inc., *Volendam,* ———, 754 bls. wood pulp.
J. Andersen & Co., *Bergensfjord,* Oslo, 2500 bls. sulphite.
Chase National Bank, *Bergensfjord,* Oslo, 420 bls. sulphite.
Bulkley Dunton Pulp Co. Inc., *Kungsholm,* ———, 600 bls. wood pulp.
M. Sone, *Kungsholm,* Gothenburg, 256 bls. chemical pulp.
Perkins Goodwin & Co., *Kungsholm,* Gothenburg, 600 bls. wood pulp.
———, *Hamburg,* Hamburg, 300 bls. wood pulp, 45 tons.

WOOD PULP BOARDS

Salwen Paper Co., *Kungsholm,* Gothenburg, 24 bls.

Darcy Export Co., *Kungsholm,* Gothenburg, 22 bls.
H. Fuchs & Son, *Kungsholm,* Gothenburg, 8 crates.
Wilkinson Grey Co., Inc., *Kungsholm,* Gothenburg, 12 rolls.

NEWARK IMPORTS

WEEK ENDING OCTOBER 9, 1937

H. G. Craig Co., *Donpaco,* Donnacona, 307 rolls newsprint.

ALBANY IMPORTS

WEEK ENDING OCTOBER 9, 1937

International Paper Co., *Torny,* Chatham, N. B.. 1600 cords pulp wood.

NEW LONDON IMPORTS

WEEK ENDING OCTOBER 9, 1937

Gottesman & Co. Inc., *Vingaren,* Sweden, 3000 bls. sulphate.

BOSTON IMPORTS

WEEK ENDING OCTOBER 9, 1937

——, *Tiradentes,* Rotterdam, 62 rolls strawboard.
——, *Waukegan,* Liverpool, 29 bls. rags.
Atkinson Haserick Co., *Pr. Polk,* Genoa, 9 cs. paper.
Gottesman & Co. Inc., *Toronto,* Norway, 1250 bls. sulphite.
Parsons & Whittemore, Inc., *Frankenwald,* ——, 1100 bls. wood pulp.

PHILADELPHIA IMPORTS

WEEK ENDING OCTOBER 9, 1937

M. Sone, *Frankenwald,* Hamburg, 305 bls. wood pulp.

WILMINGTON IMPORTS

WEEK ENDING OCTOBER 9, 1937

Price & Pierce, Ltd., *Minnequa,* ——, 6888 bls. unbleached sulphite.

BALTIMORE IMPORTS

WEEK ENDING OCTOBER 9, 1937

Castle & Overton, Inc., *Black Hawk,* Rotterdam, 300 bls. wood pulp, 60 tons.
Congoleum Nairn Co., *Black Hawk,* Rotterdam, 123 bls. rags.
——, *Tiradentes,* Hamburg, 1800 bls. wood pulp.
——, *Tiradentes,* Hamburg, 99 rolls wood pulp boards.
Congoleum Nairn Co., *Tiradentes,* Hamburg, 322 bls. rags.
Washington Post, *Markland,* Liverpool, 1652 rolls newsprint.
Gottesman & Co. Inc., *Sagoporack,* Liverpool, N. S., 4800 bls. sulphate.
Parsons & Whittemore, Inc., *City of Havre,* ——, 580 bls. wood pulp.
E. J. Keller, Co. Inc., *City of Havre,* ——, 59 bls. paperstock.

E. B. MacMillan Made Deputy Chief

[FROM OUR REGULAR CORRESPONDENT]

SOUTH HADLEY FALLS, Mass., October 12, 1937.—Earl B. MacMillan, sales manager for the Hampden Glazed Paper and Card Company of Holyoke, has been appointed deputy chief of staff by the state department of the Veterans of Foreign Wars, Mr. MacMillan served in the Yankee Division in the World War and was awarded a Purple Heart medal for being wounded in action. He is also a member of the American Legion.

A. G. Gibson Goes With Shartle

A. G. Gibson, formerly plant superintendent at the Stewart Insoboard Company at St. Joseph, Mo., is now associated with the Shartle Brothers Machine Company at Middletown, Ohio, according to an announcement made by the company recently.

Mr. Gibson, who has had a long history of mechanical experience in various mills, will assume the postion of sales engineer.

September Newsprint Statistics

Production of newsprint in Canada during September 1937 amounted to 312,351 tons and shipments to 306,548 tons, according to the News Print Bureau. Production in the United States was 77,635 tons and shipments 73,838 tons, making a total United States and Canadian news print production of 389,986 tons and shipments of 380,386 tons. During September 31,160 tons of news print were made in Newfoundland, so that the total North American production for the month amounted to 421,146 tons. Total production in September 1936 was 369,609 tons.

The Canadian mills produced 426,784 tons more in the first nine months of 1937 than in the first nine months of 1936, which was an increase of eighteen and five tenths percent. The output in the United States was 26,154 tons or three and eight tenths percent more than in the first nine months of 1936, and in Newfoundland 29,331 tons or twelve and one tenth percent more, making a total increase of 482,269 tons, or fifteen percent.

Stocks of news print paper at Canadian mills were reported at 89,553 tons at the end of September and 21,473 tons at United States mills, making a combined total of 111,026 tons compared with 101,426 tons on August 31, 1937.

Customs Court Decides Paper Cases

The United States Customs Court has decided that stippled beer mat board imported in large quantities from Austria is dutiable at 30 percent as embossed paper board, and is not dutiable as plain board at 15 percent. The case was initiated by the Import Committee of the American Paper Industry which took the position that the stippled effect constituted an embossing or decoration, and the Customs Court held the effect was decorative, even if not produced by the use of male or female dies. The importers admitted that the orders for the beer mat board specified it be made with a "pin prick" design.

German carbon coated paper was held by the Court to be heavily undervalued being held to be dutiable at a value of 7.2 marks per 100 sheets, as compared with a value claimed by the importer of 5 marks. The importation at Houston, Texas, was held undervalued by the Customs officials and the higher value was sustained when the importer appealed.

Salt Cake Plant for Arkansas

LITTLE ROCK, Ark., October 11, 1937.—Plans for construction of a $1,500,000 salt cake manufacturing plant about 150 miles from here are under consideration according to Harvey C. Couch, president of Arkansas Power & Light Co., subsidiary of Electric Power & Light Corp. The salt cake to be produced at the proposed plant would be used in manufacture of paper, and presumably the new plant would be allied with paper manufacturers in Arkansas, Louisiana and Texas.

Details of the project have not been revealed yet, but it was disclosed that search for sulphate rock has been in progress for some time.

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Svanö, Sweden

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, October 13, 1937.

The wholesale paper market continues to report volume of sales as under expectations, which condition is true of business in general. While demand for paper and paper products should normally be higher during the second week in October, moderate activity prevails, with prices, in general, firm.

The newsprint markets continues active, with the normal volume of contract shipments moving freely. The fine paper market states demand as fair, with bond and ledger papers reflecting what is stated to be a lagging consumer demand. Book papers are moderately active an prices continue firm.

The demand for kraft papers is holding up well and the market is active. Prices continue firm.

The box board market continues to report demand as less than seasonal, with no sign, as yet, of the improved demand which usually sets in in September.

Chemical Pulp

The chemical pulp market reports demand for the current week as slightly lower. The supply of the imported grades of pulp continues to be rather limited. Prices continue firm.

Mechanical Pulp

The mechanical pulp market reports demand on the level of the preceding week. Prices are firm, with quotations unchanged

Old Rope and Bagging

The demand for old rope and bagging continues moderate Prices are firm and unchanged from the quotations of the preceding week

Rags

The domestic rag market reports demand as moderate Prices continue firm and unchanged from the quotations of last week.

Waste Paper

The waste paper market continues steady, with the demand for the lower grades somewhat slow, while the prices of higher grades of waste paper are very firm. No change in prices are reported for this week.

Twines

The demand for twine is reported as only moderately active. Prices are firm in all twines but cotton, which are less firm under the influence of lower cotton prices due to the bumper crop of this year.

Industrial Tire Handbook

Designed to point out ways to save money on intra-plant and industrial hauling, and telling how to lower costs and speed up plant operations by using the proper rubber-tired wheels on material handling equipment, a new 30-page Industrial Tire Handbook has just been published by The B. F. Goodrich Company. Copies are available upon request to the company's principal offices in Akron, Ohio.

One of the most interesting parts of the booklet describes a simple test which can be made by any user or prospective user to show how rubber-tired equipment can reduce abrasive wear on floors, as compared to steel wheels. Another section describes a series of exhaustive tests by Goodrich engineers on the same subject, together with charts showing why rubber tires require less power.

A complete line of new steel casters equipped with Vulc-On rubber-tired wheels, with which old style casters can be easily replaced are listed on three pages, while steel wheels equipped with Vulc-On tires are described in five pages, with complete data and specification tables.

Six pages are devoted to wheelbarrow tires, including the standard type, with inner tubes, single tubes, and solid type.

Jordan Sales Record Set by Shartle Bros.

A new jordan sales record is claimed by Shartle Brothers Machine Company of Middletown, Ohio. They state that 45 of their latest Miami jordans, the No. 5, have been sold — this despite the fact that it is only a few months old. Shartles assert that no other new jordan has ever sold so fast in so short a period of time after its introduction.

Reason for this rapid sale is held to be due to the fact that No. 5 meets the modern requirement for a jordan of great capacity and with the latest mechanical refinements. It is said that this new Miami jordan particularly appeals to the kraft mills which have been heavy buyers.

An illustrated bulletin containing full particulars will be released in the near future.

Join Brownville Board Co.

BROWNVILLE, N. Y., October 11, 1937. — The Brownville Board Company announces the addition to its staff of Robert G. Horr and L. Barton Wilson. Mr. Horr has for a number of years been a member of the board of directors of the company, and is now associated with the active management as vice-president and will devote much of his time to sales work. Mr. Wilson will be chiefly concerned with the handling of sales promotion and advertising.

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Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, October 13, 1937.

BLANC FIXE—The blanc fixe market continues seasonably active. Prices are firm and conform to the quotations of the preceding week. The powder is offered at from 3½ to 3¾ cents per pound, in barrels at works.

BLEACHING POWDER—The demand for bleaching powder is steady. Prices are firm and unchanged for the week. Bleaching powder is quoted at from $2 to $2.25 per 100 pounds, in drums, at works.

CASEIN—The casein market continues active. Prices are firm. Domestic standard ground casein is quoted at 14 cents per pound; domestic finely ground casein at 15 cents per pound, all in bags, car lot quantities.

CAUSTIC SODA—The demand for caustic soda continues good. Prices are firm and unchanged from last week. Quotations for solid caustic soda range at from $2.10 to $2.30; flake and ground at from $2.50 to $2.70 per 100 pounds, in drums, at works.

CHINA CLAY—The china clay market continues active, with contract shipments moving in good volume. Imported china clay is quoted at from $14.50 to $25 per ton, ship side. The demand for domestic clay continues good. Quotations of domestic filler clay range at from $11 to $22 per ton, all prices at mines.

CHLORINE—The chlorine market continues active. Prices are firm and unchanged for the current week. Chlorine is quoted at $2.15 per 100 pounds, in single-unit tank cars, f.o.b., works.

ROSIN—The demand for rosin continues steady. Paper making rosin is offered at $7.70; wood rosin at $7.60 per 280 pounds, gross weight, in barrels at Savannah. Seventy per cent rosin size is quoted at $3.53 per 100 pounds, in tank cars, f.o.b., shipping point.

SALT CAKE—The salt cake market is seasonably active. Prices are firm. Quotations range at from $12 to $13.50 per ton; chrome salt cake at from $11 to $12, f.o.b., shipping point. Imported salt cake is quoted at from $14.50 to $15 per short ton, Gulf or Atlantic Seaboard, on dock.

SODA ASH—The demand for soda ash continues good, with a normal demand from paper mills. Prices are unchanged. Quotations on soda ash in car lots, at works, per 100 pounds are as follows: in bulk, $.90; in bags, $1.05; and in barrels, $1.35.

STARCH—The starch market continues on the levels of the preceding week. Prices are unchanged. Paper making starch is quoted at $3.45 per 100 pounds, in barrels, car lots, f.o.b., Chicago.

SULPHATE OF ALUMINA—The sulphate of alumina market continues steady, with contract shipments moving freely. Prices are unchanged. The commercial grades are quoted at from $1.25 to $1.60; iron free at from $2 to $2.25 per 100 pounds, in barrels, at works.

SULPHUR—The demand for sulphur continues good. Prices are firm. Annual contracts are quoted at $18 per long ton, f.o.b., cars at mines. Spot and nearby car lots are quoted at $21 per ton; all prices in car lots.

TALC—The talc market is steady. Prices are firm. Domestic talc is offered at from $15 to $18 per ton, Eastern mines. Imported talc is quoted at from $25 to $40 per ton, on dock.

Market Quotations

Paper

Tissues—Per Ream—

White No. 1	1.10	@	—
White No. 1 M. G.	1.07½	@	—
White No. 1½	.77½	@	—
White No. 2	.75	@	—
Anti-Tarnish M. G.	.77½	@	—
Colored	.90	@	—
Kraft	.77½	@	—
Manila	.75	@	—
Unbleached Toilet.	2.90	@	3.30
Bleached Toilet	3.94	@	5.26

Paper Towels—

Unbleached	2.10	@	3.35
Bleached	3.30	@	3.70

Manila—

No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.00	@	5.25
No. 2 Wood	3.50	@	4.00

Fibre Papers—

No. 1 Fibre	4.25	@	5.50
No. 2 Fibre	4.00	@	4.75

(Delivered New York)

News, per ton—

Roll, contract	42.50	@	—
Sheets	47.50	@	—

Kraft—

No. 1 Northern	5.25	@	5.75
Standard	5.00	@	—
Southern	4.50	@	—
Machine glazed, plain, striped	5.00	@	—

Boards, per ton—

Chip	40.00	@	—
News	40.00	@	—
Sgl. Mla. Ll. Chip.	52.50	@	—
Jute Lined Chip	52.50	@	—
White Pat. Coated.	65.00	@	67.50
Kraft Liners	55.00	@	—
Binders Boards	75.00	@	80.00

The following are representative of distributors' resale prices:—

Rag Content Bonds and Ledgers—
White, Assorted Items,
Delivered in Zone 1:

	Bonds	Ledgers
100% Rag Ext. No. 1.	$41.40@$48.50	$42.55@$50.00
100% Rag	32.80@ 38.50	33.95@ 39.75
85% Rag	.....	32.20@ 37.75
75% Rag	24.75@ 29.00	25.90@ 30.50
65% Rag	21.65@ 26.25	22.80@ 27.75
50% Rag	18.70@ 22.75	19.90@ 24.25
25% Rag	15.80@ 19.25	16.95@ 20.75

Regular Colors @ $1.50 cwt. extra.
Heavy Colors @ $3.00 cwt. extra

Sulphite Bonds and Ledgers—
White, Assorted Items,
Delivered in Zone 1:

	Bonds	Ledgers
No. 1	$9.35@$11.50	$10.55@$12.75
No. 2	8.50@ 10.25	9.65@ 11.75
No. 4	7.60@ 9.25	8.80@ 10.75

Regular Colors @ $1.50 cwt. extra.
Heavy Colors @ $3.00 cwt. extra.

Free Sheet Book Papers—
White, Cased Paper,
Delivered in Zone 1:

No. 1 Glossy Coated	$12.45	@$14.25
No. 2 Glossy Coated	10.80	@ 12.25
No. 3 Glossy Coated	9.65	@ 11.00
No. 4 Glossy Coated	9.05	@ 10.50
No. 1 Antique (watermarked)	9.05	@ 10.50
No. 2 Offset	8.35	@ 9.50
A Grade E. F.	8.20	@ 9.50
A Grade S. & S. C.	8.45	@ 9.75
B Grade E. F.	7.60	@ 8.75
B Grade S. & S. C.	7.85	@ 9.00
C Grade E. F.	7.30	@ 8.50
C Grade S. & S. C.	7.55	@ 8.75
D Grade E. F.	7.00	@ 8.25
D Grade S. & S. C.	7.25	@ 8.50

Ivory & India at $.50 cwt. extra.

Mechanical Pulp

(On Dock, Atlantic Ports)

No. 1 Imported—			
Moist	35.00	@	36.00
Dry	40.00	@	42.00

(Delivered)

No. 1 Domestic and Canadian	36.00	@	37.50

Chemical Pulp

(On Dock, Atlantic, Gulf and West Coast Ports)

Bleached Sulphite (Domestic and Foreign)—			
Prime Bleached Sulphite	3.50	@	4.65
Prime Qualities—			
Easy-Bleaching Sulphite	3.50	@	4.00
Strong Unbleached Sulphite	3.00	@	3.65

(On Dock, Atlantic Ports)

Kraft Bleached	4.00	@	4.75
Kraft Light & Strong	3.00	@	3.75
Kraft No. 1	2.90	@	3.65
Kraft No. 2	2.50	@	2.75

(F.o.b. Pulp Mill)

Kraft Domestic	2.00	@	3.10

(Delivered)

Soda Bleached	3.25	@	—

Add 60 cents per short ton, dock charges, for Albany; $2.00 for Lake Ports East and $3.00 for Lake Ports West of Mackinac Straits.

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	8.75	@	9.00
Silesias, No. 1	6.63	@	6.88
New Unbleached	6.75	@	7.00
Blue Overall	6.75	@	7.00
Fancy	3.75	@	4.00
Washables	2.75	@	3.00
Mixed Khaki Cuttings	4.25	@	4.50
O. D. Khaki Cuttings	4.75	@	5.00

Old Rags

White, No. 1—			
Repacked	3.75	@	4.25
Miscellaneous	3.00	@	3.25
White, No. 2—			
Repacked	2.60	@	2.85
Miscellaneous	2.00	@	2.25
Thirds and Blues—			
Repacked	2.00	@	2.25
Miscellaneous	1.90	@	2.00
Roofing Rags—			
No. 2	1.40	@	1.50
No. 1	1.30	@	1.40
No. 3 (bagging)	.85	@	.95
No. 4	.90	@	1.00
No. 5A	.65	@	.75

Foreign Rags

New Rags

New Dark Cuttings	2.25	@	2.40
New Mixed Cuttings	2.00	@	2.20
New Light Silesias	5.50	@	5.75
Light Flannelettes	5.50	@	5.75
New White Cuttings	7.00	@	7.50
New Light Oxford	4.00	@	4.50
New Light Prints	3.00	@	3.25

Old Rags

No. 1 White Linens	7.50	@	8.50
No. 2 White Linens	6.50	@	7.50
No. 3 White Linens	4.50	@	5.50

PAPER TRADE JOURNAL

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

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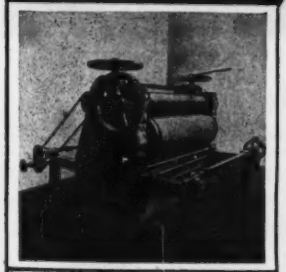

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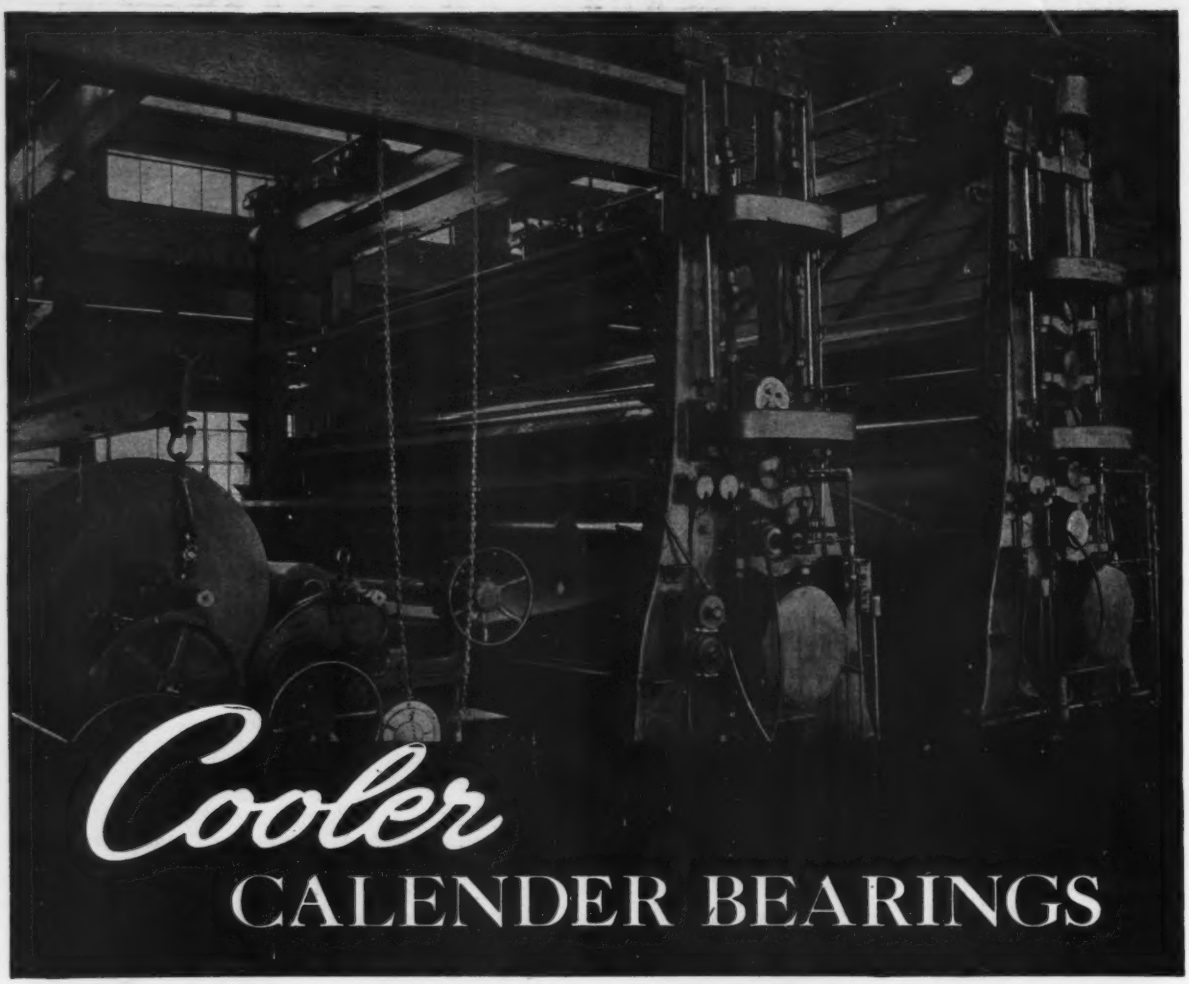

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PAPER TRADE JOURNAL

Reg. U. S. Pat. Off.

SIXTY-SIXTH YEAR

Established Feb. 17, 1899
Consolidated Nov. 16, 1899
with Paper Trade Journal.

Vol. CV, No. 17

Thursday, October 21, 1937

Established Sept. 21, 1910
Consolidated Feb. 19, 1925
with Paper Trade Journal.

Newsprint Industry Reverses Its Trend

Canada's Long Record of Rising Production and Expanding Consumption Has Set Back — Doubt Felt That Demand Can Keep Up With Present Output — Many Factors Complicate Current Situation — Other News.

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., October 18, 1937.—The past week has witnessed a dramatic reversal of the buoyant trend in the newsprint industry which up to now had been unbroken for over a year. The long-continued story of new records in production and of expanding consumption, with prospects of a gradually mounting price structure, has received a rude shock. The events of the week, put in their chronological order, have been as follows:

1.—Publication of the news that the Canadian International Paper Company closed down its newsprint mills at Three Rivers, Gatineau, Dalhousie and Cornerbrook on October 11, which, being Thanksgiving Day in Canada, was a statutory holiday.

2.—The announcement that this was "understood" to be a prelude to the adoption of a five-day working week in this and other newsprint mills, instead of a six-day working week.

3.—The apparently sudden discovery, or fear, that the record production of this year had not represented a similar increase in consumption, but a record-breaking building up of warehouse stocks of newsprint.

4.—A recurrence of wide-spread apprehension over the price policy of the great Northern Paper Company, which in the past two years has upset plans by announcing a smaller increase than had been anticipated by the majority of Canadian and American manufacturers.

5.—A widespread break on the Montreal Stock Exchange in the price of newsprint securities.

Figures issued by the Newsprint Service Bureau, showed that in September there was a falling off in newsprint production of 6,362 tons as compared with the peak month of August, when 318,913 tons were produced. This was shown to be due entirely to fewer working days. The prospects now are, however, that there will be a continuance of lower production, and in some quarters it is predicted that for the balance of the year production is likely to be smaller than for the similar months of 1936.

There are two reasons for the steady increase in warehouse stocks—one that was foreseen, and one that was not. The first was the policy which early in the year was urged upon publishers, and followed by many of levelling out their orders in the lean months in order to build up stocks to prevent a shortage in the months of heavy consumption. The second, and unforeseen reason, was the collapse of the stock market in the face of booming business conditions. This latter has had a widespread effect on business enterprise and has resulted in market decrease in newsprint consumption as compared with what might normally be expected, and has aroused the fear of a further falling off in consumption.

At present the situation is far from clear. What appears to be obvious is that the marketing structure in the newsprint industry, and the price structure, at any rate as regards the second half of 1938, will depend upon the duration and strength of the business reaction and the success of the producers during the interim in tackling the problem of over-supply now faced by the industry.

In the latter connection it may be said that conditions are far different from what they were when over-supply was last such a destructive factor. Then the newsprint companies were all at loggerheads and engaged in a fierce cut throat policy of competition, on a devil-take-the-hindmost basis. Now there is a closer spirit of cooperation in the industry than at any time in the past ten years. Touching on this point the Montreal Gazette, in commenting on the restriction of production by the Canadian International Paper Company, says: "Of no little importance is the announcement that the International Paper Company is planning to adopt the five-day week, or rather to adjust its output to prospective consumption. While the only inference from this is that the outlook is for a shading in consumption, the real significance of the move lies in the fact that it denotes a marked change in the industry's tactics when a reduction in consumption appears to be in the offing. In other years, the strategy adopted in similar circumstances was to cut prices in an effort to secure tonnage, with what unfortunate results is all too well known."

The Financial Times, of Montreal, also stresses this point. It says: "With heavy stocks in publishers hands, built up during the Summer months, and a falling off in consumption now evident in some directions, certain of the newsprint companies currently find themselves with an inadequate volume of contract business to keep the mills at full capacity as they

(Continued on page 23)

have used the research facilities of the Institute during the past twelve-month period. Of these latter only one-fifth were mills in the immediate neighborhood of the Institute. It is a matter of particular significance that the activities of the Institute increasingly concern the problems of member mills located at a distance from Appleton.

During the past year the board of trustees authorized the licensing of patents developed at the Institute outside of the pulp and paper industry. This policy has implications which may develop into an aspect of our program of considerable importance.

South's Pulpwood Not Inexhaustible

Current developments of the pulp and paper industry in the South are receiving considerable publicity, writes G. D. Cook in the *Forestry News Digest*. The influx of new mills has been of rather spectacular proportions and is likely to have widespread effects of a social, economic, and technical nature, the Federal Forest Service official believes.

This new activity has been brought to the South primarily by the prospects of plentiful raw material, lower wages than exist in the North, and economical water rates from mills to markets. There has been talk of the development of a large newsprint industry using Southern pine, but so far developments have been largely confined to kraft mills making paper by the sulphate process.

In the last two years nine new mills of large size have been built or are now building. Several additional mills are in prospect.

The idea seems to have developed that there is an "inexhaustible" supply of pulpwood in the South. Whether or not this is true depends on a number of factors, Mr. Cook says: How much is on the ground at present, how the timber is to be cut and managed, how fast it will grow, and what the demands for other uses of the timber will be.

In the South as a whole some 140 out of a total of 200,000,000 acres of forest land is classified as pine land. These pine lands are supporting a vast number of wood-using plants and wood industries. Superimposing on these a number of large pulp and paper mills with heavy requirements for raw material will, in many sections, result in intense competition for wood. This in turn will cause serious depletion unless management of the forests is undertaken with a view to maintaining the raw material supply which supports the whole.

In the South generally, growth is far below the capacity of the land to produce wood; probably growth is not more than one-third what it could be under a reasonable degree of forest protection and management.

It is difficult to visualize the magnitude of the requirements of the pulp and paper industry which is developing in the South. Even the fact that the capacity of mills built and building is approximately 3,900,000 cords annually cannot be readily grasped. This amount of wood in cords end to end would build a wall of pulpwood four feet wide and more than four feet high clear around the eleven Southern States.

A recent compilation of data on volume, growth, and drain for some 42,000,000 acres in the deep South showed that growth and drain were about equal—or about eight million cords per year each.

The volume and growth figures include all merchantable volumes whether in operable blocks or scattered trees, and represent also rather complete utilization, which, generally speaking, is not widely practiced. And in addition to the drain shown, will be the drain from pulp and paper mills now building and contemplated.

This picture does not bear out the idea of an "inexhaustible" supply, but the picture can be made to appear as bright or as dismal as those most directly concerned desire to make it.

Each landowner and each wood-using industry should insist that all land of commercial forest quality be kept in or be brought to good productive condition by leaving or developing an adequate growing stock. The public must cooperate so that adequate protection from fire is maintained, inequities in taxation are overcome, and suitable forest credits are provided.

Returns From Good Will Tour of Mills

BOSTON, Mass., October 11, 1937—Miss Myra Dee, managing director of Smith, Dee & Lane, has just returned from a three weeks' goodwill tour of the mills for which the company is the selling agent in New England, in the interests of cooperation and greater production. She brings back the promise of larger volume and prompt shipments. Miss Dee visited the Paper Plate and Tray Company, Chicago, Ill.; Cellulose and Paper Converting Company, Philadelphia, Pa.; Dobeckmun Company, Cleveland, Ohio; Harvey Paper Products Company, Sturgis, Mich.; Indiana Fibre Products Company, Marion, Ind.; Puritan Paper Plate and Products Company, Traumbauersville, Pa.; and St. Joe Mullen Dick Company, St. Joseph, Mich.

Boston Agents of Strathmore Meet

BOSTON, Mass., October 11, 1937.—Sales forces and executives of the four Boston agencies of the Strathmore Paper Company, West Springfield, Mass., about 80 in all, including Carter, Rice & Co., Corporation, Arnold-Roberts Company, Cook-Vivian Company, and Storrs & Bement Company were present at a meeting held at the Parker House Monday afternoon at 5 o'clock. John Zink, vice-president of the Strathmore Paper Company; E. M. Hughes, the sales representative, and Oliver P. Richmond, in charge of envelope sales of the concern, addressed the meeting. Many beautiful specimens of work produced on Strathmore papers were shown and discussed. The meeting was followed by a buffet supper.

Big Increase in Used Machinery Sales

Used equipment sales at Shartle Brothers, Middletown, Ohio for the last twelve months ending with August have increased 165 per cent over the same period last year, according to a statement made by Adam E. Bridge, sales manager of the company.

10 additional acres of ground have been purchased for storage facilities, making a total of 25 acres in all. The additional space was made necessary by the increase in volume, Mr. Bridge said.

"Feature of our sales for the last year was the selling of no less than 10 used paper machines. Furthermore, present sales lead us to believe that even that figure will be surpassed in 1938."

Imports of Paper and Paper Stock

Giving Manifests of New York, Boston, Philadelphia and Other Ports, of Newsprint, Wrapping, Writing, Coated, Blotting, Tissue, Strawboard, Wallboard, Cigarette Papers, Sulphite, Kraft and Ground Wood Pulp.

NEW YORK IMPORTS

WEEK ENDING OCTOBER 9, 1937

SUMMARY

Cigarette paper ..... 714 cs.
Paper hanging ..... 32 boxes, 51 cms.
Newsprint ..... 3661 rolls
Printing paper ..... 6 cs.
Wrapping paper ..... 789 rolls, 123 bls., 1 cs.
Packing paper ..... 21 bls., 95 cs.
Drawing paper ..... 4 cs.
Filter paper ..... 27 cs.
Surface coated paper ..... 128 crates, 10 cs.
Coated paper ..... 2 cs.
Decalcomania paper ..... 54 drums (duplex)
Colored paper ..... 3 cs.
Tissue paper ..... 4 cs.
Card board ..... 42 bls.
Miscellaneous paper ..... 468 rolls, 147 bls., 133 cs.

CIGARETTE PAPER

A. Dunhill, Inc., *Queen Mary*, Southampton, 2 cs.
H. H. Strauss, *Ile de France*, Havre, 221 cs.
Champagne Paper Corp., *Ile de France*, Havre, 489 cs.
De Mauduit Paper Corp., *Ile de France*, Havre, 2 cs.

PAPER HANGINGS

W. H. S. Lloyd & Co., *American Trader*, London, 2 cs., 9 bls.

NEWSPRINT

H. G. Craig Co. Inc., *G. D. D.*, Donnacona, 305 rolls.
N. Y. Evening Journal, *Markland*, Liverpool, N. S., 629 rolls.
N. Y. Tribune, *Markland*, Liverpool, N. S., 1951 rolls.
N. Y. Telegram, *Markland*, Liverpool, N. S., 594 rolls.
Brooklyn Daily Eagle, *Markland*, Liverpool, N. S., 262 rolls.
Westchester Newspapers, Inc., *Markland*, Liverpool, N. S., 45 rolls.
Parsons & Whittemore, Inc., *Markland*, Liverpool, N. S., 291 rolls.
H. G. Craig Co., Inc., *Kermic*, Donnacona, 304 rolls.
——, *Bergensfjord*, Oslo, 300 rolls.
Perkins Goodwin & Co., *Hamburg*, Hamburg, 326 rolls.

PRINTING PAPER

Oxford University Press, *Scythia*, Liverpool, 6 cs.

WRAPPING PAPER

Dunham & Reeve, Inc., *Kungsholm*, Gothenburg, 123 bls., 125 rolls.
Chase National Bank, *Kungsholm*, Gothenburg, 237 rolls.
Guaranty Trust Co., *Kungsholm*, Gothenburg, 327 rolls.
Japan Paper Co., *Gerolstein*, Antwerp, 1 cs.

PACKING PAPER

A. J. Bullinger, *Black Hawk*, Rotterdam, 8 cs.
——, *Gerolstein*, Antwerp, 21 bls.
——, *Hamburg*, Hamburg, 87 cs.

DRAWING PAPER

H. Reeve Angel & Co. Inc., *American Trader*, London, 2 cs.
Keuffel & Esser Co., *American Trader*, London, 2 cs.

FILTER PAPER

H. Reeve Angel & Co. Inc., *American Trader*, London, 18 cs.
E. H. Sargent & Co., *Kungsholm*, Gothenburg, 1 cs.
——, *Hamburg*, Hamburg, 8 cs.

SURFACE COATED PAPER

Globe Shipping Co., *Hamburg*, Hamburg, 128 crates.
Moller Kokeritz & Co., *Bremen*, Bremen, 10 cs.

COATED PAPER

W. J. Byrnes, *Queen Mary*, Southampton, 2 cs.

DECALCOMANIA PAPER

B. F. Drakenfeld & Co., *American Shipper*, Liverpool, 54 drums, (duplex)

COLORED PAPER

D. C. Andrews & Co., *Bremen*, Bremen, 3 cs.

TISSUE PAPER

B. F. Drakenfeld & Co., *American Shipper*, Liverpool, 4 cs.

CARDBOARD

Salwen Paper Co., *Kungsholm*, Gothenburg, 42 bls.

MISCELLANEOUS PAPER

The Borregaard Co. Inc., *Kungsholm*, Gothenburg, 341 rolls.
F. L. Kramer & Co., *Kungsholm*, Gothenburg, 90 rolls, 147 bls.
Keuffel & Esser Co., *Hamburg*, Hamburg, 122 cs., 37 rolls.
——, *Ile de France*, Havre, 11 cs.

RAGS, BAGGING, ETC.

Castle & Overton, Inc., *Uruguayo*, Buenos Ayres, 605 bls. rags.
Chase National Bank, *Kalinin*, Leningrad, 1787 bls. rags.
E. J. Keller Co. Inc., *Tiradenses*, ——, 118 bls. rags.
——, *American Shipper*, Manchester, 64 bls. paperstock.
Castle & Overton, Inc., *Volendam*, Rotterdam, 375 bls. bagging.
R. Blank, *Volendam*, Rotterdam, 99 bls. rags.
J. Cohen & Sons Co., Inc., *Scythia*, Liverpool, 16 bls. rags.
Manufacturers Trust Co., *Scythia*, Liverpool, 13 bls. rags.
Chase National Bank, *Gerolstein*, Antwerp, 147 bls. jute-waste.
Manufacturers Trust Co., *Pr. Polk*, Bombay, 100 bls. cotton waste.
Royal Manfg. Co., *Pr. Polk*, Bombay, 50 bls. cotton waste.
E. J. Keller Co. Inc., *Black Gull*, ——, 247 bls. bagging.

GLUE STOCK, ETC

American Express Co., *Scythia*, Liverpool, 450 bags hidecuttings.
——, *Saturnia*, Trieste, 250 bags boneglue.

OLD ROPE

Banco Coml Italiane Trust Co., *Tiradentes*, Rotterdam, 94 coils.
——, *Tiradentes*, Rotterdam, 66 coils.
E. J. Keller Co. Inc., *American Trader*, ——, 42 coils.
American Express Co., *American Shipper*, Manchester, 28 bls.

CHINA CLAY

Orbis Products Trading Co., *Scythia*, Liverpool, 448 bags.

WOOD PULP

Absorbo Beer Pad Co., *Saturnia*, Trieste, 200 bls. wood pulp.
Bulkley Dunton Pulp Co. Inc., *Volendam*, ——, 754 bls. wood pulp.
J. Andersen & Co., *Bergensfjord*, Oslo, 2500 bls. sulphite.
Chase National Bank, *Bergensfjord*, Oslo, 420 bls. sulphite.
Bulkley Dunton Pulp Co. Inc., *Kungsholm*, ——, 600 bls. wood pulp.
M. Sone, *Kungsholm*, Gothenburg, 256 bls. chemical pulp.
Perkins Goodwin & Co., *Kungsholm*, Gothenburg, 600 bls. wood pulp.
——, *Hamburg*, Hamburg, 300 bls. wood pulp, 45 tons.

WOOD PULP BOARDS

Salwen Paper Co., *Kungsholm*, Gothenburg, 24 bls.

Darcy Export Co., *Kungsholm*, Gothenburg, 22 bls.
H. Fuchs & Son, *Kungsholm*, Gothenburg, 8 crates.
Wilkinson Grey Co., Inc., *Kungsholm*, Gothenburg, 12 rolls.

NEWARK IMPORTS

WEEK ENDING OCTOBER 9, 1937

H. G. Craig Co., *Donpaco*, Donnacona, 307 rolls newsprint.

ALBANY IMPORTS

WEEK ENDING OCTOBER 9, 1937

International Paper Co., *Torny*, Chatham, N. B., 1600 cords pulp wood.

NEW LONDON IMPORTS

WEEK ENDING OCTOBER 9, 1937

Gottesman & Co. Inc., *Vingaren*, Sweden, 3000 bls. sulphate.

BOSTON IMPORTS

WEEK ENDING OCTOBER 9, 1937

———, *Tiradentes*, Rotterdam, 62 rolls strawboard.
———, *Waukegan*, Liverpool, 29 bls. rags.
Atkinson Haserick Co., *Pr. Polk*, Genoa, 9 cs. paper.
Gottesman & Co. Inc., *Toronto*, Norway, 1250 bls. sulphite.
Parsons & Whittemore, Inc., *Frankenwald*, ———, 1100 bls. wood pulp.

PHILADELPHIA IMPORTS

WEEK ENDING OCTOBER 9, 1937

M. Sone, *Frankenwald*, Hamburg, 305 bls. wood pulp.

WILMINGTON IMPORTS

WEEK ENDING OCTOBER 9, 1937

Price & Pierce, Ltd., *Minnequa*, ———, 6888 bls. unbleached sulphite.

BALTIMORE IMPORTS

WEEK ENDING OCTOBER 9, 1937

Castle & Overton, Inc., *Black Hawk*, Rotterdam, 300 bls. wood pulp, 60 tons.
Congoleum Nairn Co., *Black Hawk*, Rotterdam, 123 bls. rags.
———, *Tiradentes*, Hamburg, 1800 bls. wood pulp.
———, *Tiradentes*, Hamburg, 99 rolls wood pulp boards.
Congoleum Nairn Co., *Tiradentes*, Hamburg, 322 bls. rags.
Washington Post, *Markland*, Liverpool, 1652 rolls newsprint.
Gottesman & Co. Inc., *Sagoporack*, Liverpool, N. S., 4800 bls. sulphate.
Parsons & Whittemore, Inc., *City of Havre*, ———, 580 bls. wood pulp.
E. J. Keller, Co. Inc., *City of Havre*, ———, 59 bls. paperstock.

E. B. MacMillan Made Deputy Chief

[FROM OUR REGULAR CORRESPONDENT]

SOUTH HADLEY FALLS, Mass., October 12, 1937.—Earl B. MacMillan, sales manager for the Hampden Glazed Paper and Card Company of Holyoke, has been appointed deputy chief of staff by the state department of the Veterans of Foreign Wars, Mr. MacMillan served in the Yankee Division in the World War and was awarded a Purple Heart medal for being wounded in action. He is also a member of the American Legion.

A. G. Gibson Goes With Shartle

A. G. Gibson, formerly plant superintendent at the Stewart Insoboard Company at St. Joseph, Mo., is now associated with the Shartle Brothers Machine Company at Middletown, Ohio, according to an announcement made by the company recently.

Mr. Gibson, who has had a long history of mechanical experience in various mills, will assume the postion of sales engineer.

September Newsprint Statistics

Production of newsprint in Canada during September 1937 amounted to 312,351 tons and shipments to 306,548 tons, according to the News Print Bureau. Production in the United States was 77,635 tons and shipments 73,838 tons, making a total United States and Canadian news print production of 389,986 tons and shipments of 380,386 tons. During September 31,160 tons of news print were made in Newfoundland, so that the total North American production for the month amounted to 421,146 tons. Total production in September 1936 was 369,609 tons.

The Canadian mills produced 426,784 tons more in the first nine months of 1937 than in the first nine months of 1936, which was an increase of eighteen and five tenths percent. The output in the United States was 26,154 tons or three and eight tenths percent more than in the first nine months of 1936, and in Newfoundland 29,331 tons or twelve and one tenth percent more, making a total increase of 482,269 tons, or fifteen percent.

Stocks of news print paper at Canadian mills were reported at 89,553 tons at the end of September and 21,473 tons at United States mills, making a combined total of 111,026 tons compared with 101,426 tons on August 31, 1937.

Customs Court Decides Paper Cases

The United States Customs Court has decided that stippled beer mat board imported in large quantities from Austria is dutiable at 30 percent as embossed paper board, and is not dutiable as plain board at 15 percent. The case was initiated by the Import Committee of the American Paper Industry which took the position that the stippled effect constituted an embossing or decoration, and the Customs Court held the effect was decorative, even if not produced by the use of male or female dies. The importers admitted that the orders for the beer mat board specified it be made with a "pin prick" design.

German carbon coated paper was held by the Court to be heavily undervalued being held to be dutiable at a value of 7.2 marks per 100 sheets, as compared with a value claimed by the importer of 5 marks. The importation at Houston, Texas, was held undervalued by the Customs officials and the higher value was sustained when the importer appealed.

Salt Cake Plant for Arkansas

LITTLE ROCK, Ark., October 11, 1937.—Plans for construction of a $1,500,000 salt cake manufacturing plant about 150 miles from here are under consideration according to Harvey C. Couch, president of Arkansas Power & Light Co., subsidiary of Electric Power & Light Corp. The salt cake to be produced at the proposed plant would be used in manufacture of paper, and presumably the new plant would be allied with paper manufacturers in Arkansas, Louisiana and Texas.

Details of the project have not been revealed yet, but it was disclosed that search for sulphate rock has been in progress for some time.

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New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, October 13, 1937.

The wholesale paper market continues to report volume of sales as under expectations, which condition is true of business in general. While demand for paper and paper products should normally be higher during the second week in October, moderate activity prevails, with prices, in general, firm.

The newsprint markets continues active, with the normal volume of contract shipments moving freely. The fine paper market states demand as fair, with bond and ledger papers reflecting what is stated to be a lagging consumer demand. Book papers are moderately active an prices continue firm.

The demand for kraft papers is holding up well and the market is active. Prices continue firm.

The box board market continues to report demand as less than seasonal, with no sign, as yet, of the improved demand which usually sets in in September.

Chemical Pulp

The chemical pulp market reports demand for the current week as slightly lower. The supply of the imported grades of pulp continues to be rather limited. Prices continue firm.

Mechanical Pulp

The mechanical pulp market reports demand on the level of the preceding week. Prices are firm, with quotations unchanged

Old Rope and Bagging

The demand for old rope and bagging continues moderate Prices are firm and unchanged from the quotations of the preceding week

Rags

The domestic rag market reports demand as moderate Prices continue firm and unchanged from the quotations of last week.

Waste Paper

The waste paper market continues steady, with the demand for the lower grades somewhat slow, while the prices of higher grades of waste paper are very firm. No change in prices are reported for this week.

Twines

The demand for twine is reported as only moderately active. Prices are firm in all twines but cotton, which are less firm under the influence of lower cotton prices due to the bumper crop of this year.

Industrial Tire Handbook

Designed to point out ways to save money on intra-plant and industrial hauling, and telling how to lower costs and speed up plant operations by using the proper rubber-tired wheels on material handling equipment, a new 30-page Industrial Tire Handbook has just been published by The B. F. Goodrich Company. Copies are available upon request to the company's principal offices in Akron, Ohio.

One of the most interesting parts of the booklet describes a simple test which can be made by any user or prospective user to show how rubber-tired equipment can reduce abrasive wear on floors, as compared to steel wheels. Another section describes a series of exhaustive tests by Goodrich engineers on the same subject, together with charts showing why rubber tires require less power.

A complete line of new steel casters equipped with Vulc-On rubber-tired wheels, with which old style casters can be easily replaced are listed on three pages, while steel wheels equipped with Vulc-On tires are described in five pages, with complete data and specification tables.

Six pages are devoted to wheelbarrow tires, including the standard type, with inner tubes, single tubes, and solid type.

Jordan Sales Record Set by Shartle Bros.

A new jordan sales record is claimed by Shartle Brothers Machine Company of Middletown, Ohio. They state that 45 of their latest Miami jordans, the No. 5, have been sold — this despite the fact that it is only a few months old. Shartles assert that no other new jordan has ever sold so fast in so short a period of time after its introduction.

Reason for this rapid sale is held to be due to the fact that No. 5 meets the modern requirement for a jordan of great capacity and with the latest mechanical refinements. It is said that this new Miami jordan particularly appeals to the kraft mills which have been heavy buyers.

An illustrated bulletin containing full particulars will be released in the near future.

Join Brownville Board Co.

BROWNVILLE, N. Y., October 11, 1937. — The Brownville Board Company announces the addition to its staff of Robert G. Horr and L. Barton Wilson. Mr. Horr has for a number of years been a member of the board of directors of the company, and is now associated with the active management as vice-president and will devote much of his time to sales work. Mr. Wilson will be chiefly concerned with the handling of sales promotion and advertising.

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Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, October 13, 1937.

BLANC FIXE—The blanc fixe market continues seasonably active. Prices are firm and conform to the quotations of the preceding week. The powder is offered at from 3½ to 3¾ cents per pound, in barrels at works.

BLEACHING POWDER—The demand for bleaching powder is steady. Prices are firm and unchanged for the week. Bleaching powder is quoted at from $2 to $2.25 per 100 pounds, in drums, at works.

CASEIN—The casein market continues active. Prices are firm. Domestic standard ground casein is quoted at 14 cents per pound; domestic finely ground casein at 15 cents per pound, all in bags, car lot quantities.

CAUSTIC SODA—The demand for caustic soda continues good. Prices are firm and unchanged from last week. Quotations for solid caustic soda range at from $2.10 to $2.30; flake and ground at from $2.50 to $2.70 per 100 pounds, in drums, at works.

CHINA CLAY—The china clay market continues active, with contract shipments moving in good volume. Imported china clay is quoted at from $14.50 to $25 per ton, ship side. The demand for domestic clay continues good. Quotations of domestic filler clay range at from $11 to $22 per ton, all prices at mines.

CHLORINE—The chlorine market continues active. Prices are firm and unchanged for the current week. Chlorine is quoted at $2.15 per 100 pounds, in single-unit tank cars, f.o.b., works.

ROSIN—The demand for rosin continues steady. Paper making rosin is offered at $7.70; wood rosin at $7.60 per 280 pounds, gross weight, in barrels at Savannah. Seventy per cent rosin size is quoted at $3.53 per 100 pounds, in tank cars, f.o.b., shipping point.

SALT CAKE—The salt cake market is seasonably active. Prices are firm. Quotations range at from $12 to $13.50 per ton; chrome salt cake at from $11 to $12, f.o.b., shipping point. Imported salt cake is quoted at from $14.50 to $15 per short ton, Gulf or Atlantic Seaboard, on dock.

SODA ASH—The demand for soda ash continues good, with a normal demand from paper mills. Prices are unchanged. Quotations on soda ash in car lots, at works, per 100 pounds are as follows: in bulk, $.90; in bags, $1.05; and in barrels, $1.35.

STARCH—The starch market continues on the levels of the preceding week. Prices are unchanged. Paper making starch is quoted at $3.45 per 100 pounds, in barrels, car lots, f.o.b., Chicago.

SULPHATE OF ALUMINA—The sulphate of alumina market continues steady, with contract shipments moving freely. Prices are unchanged. The commercial grades are quoted at from $1.25 to $1.60; iron free at from $2 to $2.25 per 100 pounds, in barrels, at works.

SULPHUR—The demand for sulphur continues good. Prices are firm. Annual contracts are quoted at $18 per long ton, f.o.b., cars at mines. Spot and nearby car lots are quoted at $21 per ton; all prices in car lots.

TALC—The talc market is steady. Prices are firm. Domestic talc is offered at from $15 to $18 per ton, Eastern mines. Imported talc is quoted at from $25 to $40 per ton, on dock.

Market Quotations

Paper

Tissues—Per Ream—

White No. 1	1.10	@	—
White No. 1 M. G.	1.07½	@	—
White No. 1½	.77½	@	—
White No. 2	.75	@	—
Anti-Tarnish M. G.	.77½	@	—
Colored	.90	@	—
Kraft	.77½	@	—
Manila	.75	@	—
Unbleached Toilet	2.90	@	3.30
Bleached Toilet	3.94	@	5.26

Paper Towels—

Unbleached	2.10	@	3.35
Bleached	3.30	@	3.70

Manila—

No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.00	@	5.25
No. 2 Wood	3.50	@	4.00

Fibre Papers—

No. 1 Fibre	4.25	@	5.50
No. 2 Fibre	4.00	@	4.75

(Delivered New York)

News, per ton—

Roll, contract	42.50	@	—
Sheets	47.50	@	—

Kraft—

No. 1 Northern	5.25	@	5.75
Standard	5.00	@	—
Southern	4.50	@	—
Machine glazed, plain, striped	5.00	@	—

Boards, per ton—

Chip	40.00	@	—
News	40.00	@	—
Sgl. Mla. Ll. Chip	52.50	@	—
Jute Lined Chip	52.50	@	—
White Pat. Coated	65.00	@	67.50
Kraft Liners	55.00	@	—
Binders Boards	75.00	@	80.00

The following are representative of distributors' resale prices:—

Rag Content Bonds and Ledgers—
White, Assorted Items,
Delivered in Zone 1:

	Bonds	Ledgers
100% Rag Ext. No. 1	$41.40@$48.50	$42.55@$50.00
100% Rag	32.80@ 38.50	33.95@ 39.75
85% Rag		32.20@ 37.75
75% Rag	24.75@ 29.00	25.90@ 30.50
65% Rag	21.65@ 26.25	22.80@ 27.75
50% Rag	18.70@ 22.75	19.90@ 24.25
25% Rag	15.80@ 19.25	16.95@ 20.75

Regular Colors @ $1.50 cwt. extra.
Heavy Colors @ $3.00 cwt. extra

Sulphite Bonds and Ledgers—
White, Assorted Items,
Delivered in Zone 1:

	Bonds	Ledgers
No. 1	$9.35@$11.50	$10.55@$12.75
No. 2	8.50@ 10.25	9.65@ 11.75
No. 4	7.60@ 9.25	8.80@ 10.75

Regular Colors @ $1.50 cwt. extra.
Heavy Colors @ $3.00 cwt. extra.

Free Sheet Book Papers—
White, Cased Paper,
Delivered in Zone 1:

No. 1 Glossy Coated	$12.45@$14.25
No. 2 Glossy Coated	10.80@ 12.25
No. 3 Glossy Coated	9.65@ 11.00
No. 4 Glossy Coated	9.05@ 10.50
No. 1 Antique (watermarked)	9.05@ 10.50
No. 2 Offset	8.35@ 9.50
A Grade E. F.	8.20@ 9.50
A Grade S. & S. C.	8.45@ 9.75
B Grade E. F.	7.60@ 8.75
B Grade S. & S. C.	7.85@ 9.00
C Grade E. F.	7.30@ 8.50
C Grade S. & S. C.	7.55@ 8.75
D Grade E. F.	7.00@ 8.25
D Grade S. & S. C.	7.25@ 8.50

Ivory & India at $.50 cwt. extra.

Mechanical Pulp

(On Dock, Atlantic Ports)

No. 1 Imported—

Moist	35.00	@	36.00
Dry	40.00	@	42.00

(Delivered)

No. 1 Domestic and Canadian	36.00	@	37.50

Chemical Pulp

(On Dock, Atlantic, Gulf and West Coast Ports)

Bleached Sulphite (Domestic and Foreign)—

Prime Bleached Sulphite	3.50	@	4.65
Prime Qualities—Easy-Bleaching Sulphite	3.50	@	4.00
Strong Unbleached Sulphite	3.00	@	3.65

(On Dock, Atlantic Ports)

Kraft Bleached	4.00	@	4.75
Kraft Light & Strong	3.00	@	3.75
Kraft No. 1	2.90	@	3.65
Kraft No. 2	2.50	@	2.75

(F.o.b. Pulp Mill)

Kraft Domestic	2.00	@	3.10

(Delivered)

Soda Bleached	3.25	@	—

Add 60 cents per short ton, dock charges, for Albany; $2.00 for Lake Ports East and $3.00 for Lake Ports West of Mackinac Straits.

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—New White, No. 1	8.75	@	9.00
Silesias, No. 1	6.63	@	6.88
New Unbleached	6.75	@	7.00
Blue Overall	6.75	@	7.00
Fancy	3.75	@	4.00
Washables	2.75	@	3.00
Mixed Khaki Cuttings	4.25	@	4.50
O. D. Khaki Cuttings	4.75	@	5.00

Old Rags

White, No. 1—Repacked	3.75	@	4.25
Miscellaneous	3.00	@	3.25
White, No. 2—Repacked	2.60	@	2.85
Miscellaneous	2.00	@	2.25
Thirds and Blues—Repacked	2.00	@	2.25
Miscellaneous	1.90	@	2.00
Roofing Rags—No. 2	1.40	@	1.50
No. 1	1.30	@	1.40
No. 3 (bagging)	.85	@	.95
No. 4	.90	@	1.00
No. 5A	.65	@	.75

Foreign Rags

New Rags

New Dark Cuttings	2.25	@	2.40
New Mixed Cuttings	2.00	@	2.20
New Light Silesias	5.50	@	5.75
Light Flannelettes	5.50	@	5.75
New White Cuttings	7.00	@	7.50
New Light Oxford	4.00	@	4.50
New Light Prints	3.00	@	3.25

Old Rags

No. 1 White Linens	7.50	@	8.50
No. 2 White Linens	6.50	@	7.50
No. 3 White Linens	4.50	@	5.50

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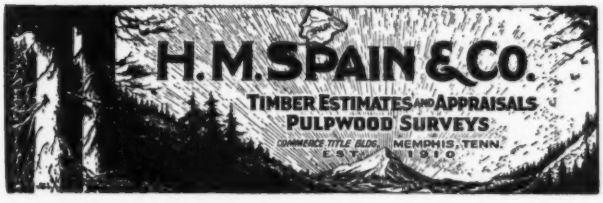

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No. 4 White Linens.	2.25	@	3.25
No. 1 White Cotton.	4.25	@	4.75
No. 2 White Cotton.	3.25	@	3.75
No. 3 White Cotton.	2.50	@	3.00
No. 4 White Cotton.	1.90	@	2.20
Extra Light Prints..	2.00	@	2.40
Ord. Light Prints...	1.75	@	2.15
Med. Light Prints...	1.55	@	1.95
Dutch Blue Cottons	2.25	@	2.50
French Blue Linens..	3.00	@	—
Checks and Blues...	2.00	@	—
Linsey Garments....	2.10	@	2.20
Dark Cottons.....	1.75	@	1.85
Old Shopperies.....	1.60	@	—
New Shopperies.....	1.60	@	—
French Blues.....	2.25	@	2.50

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	2.20	@	2.30
Domestic	2.25	@	2.35
Wool Tares, light....	1.75	@	1.85
Wool Tares, heavy...	2.10	@	2.15
Bright Bagging.....	1.70	@	1.75
Manila Rope—			
Foreign	3.75	@	4.00
Domestic	4.00	@	4.25
Jute Strings.....	2.75	@	3.00
Sisal Strings.....	2.35	@	2.45
Mixed Strings.....	Nominal		

Old Waste Papers

(F. o. b. New York)

Shavings—			
White Envelope Cuttings	3.10	@	3.25
Ordinary Hard White No. 1....	2.60	@	2.70
Hard White No. 2.	2.40	@	2.50
Soft White No. 1..	2.30	@	2.40
Flat Stock—			
Stitchless	1.15	@	1.25
Overissue Mag.....	1.15	@	1.25
Solid Flat Book...	1.00	@	1.10
Crumbled No. 1....	.75	@	.85
Ledger Stock.....	1.55	@	1.60
New B. B. Chips....	.45	@	.50
Manila—			
New Env. Cut.....	2.15	@	2.25
New Cuttings.....	1.65	@	1.75
Old Kraft Machine—Compressed bales..	1.40	@	1.55
News—			
No. 1 White News	1.40	@	1.50
Strictly Overissue.	.60	@	.70
Strictly Folded....	.42½	@	.47½
No. 1 Mixed Paper..	.35	@	.40

Twines

(F. o. b. Mill)

(Soft Fibre)			
Coarse Polished—			
India	.16	@	.17½
White Hemp.....	.17	@	.20½
India Compress....	.16½	@	.17
Fine Polished—			
Fine India.....	.22	@	.28
Unpolished—			
Box	.12½	@	.15½
Paper Makers.....	.11½	@	.13¾
Tube Rope.....	.12½	@	.15¾
Wall Paper.....	.13½	@	.14¾
Wrapping	.17	@	.21
Soft Fiber Rope..	.14¾	@	.15¾
(Hard Fibre)			
Medium Java.....	.13½	@	.14
Mex. Sisal.....	.12	@	.12½
Manila	.22	@	.29½
Domestic	4.00	@	—
Transmission Rope..	2.00	@	2.25
Soft Jute Ropes.....	2.25	@	2.50
Jute Carpet Threads.	1.75	@	2.00
Gunny No. 1			
Foreign	2.50	@	2.60
Domestic	2.10	@	2.25
Bleachery Burlap....	4.00	@	4.25
Scrap Burlap—			
Foreign	2.25	@	2.40
Domestic	1.75	@	1.85
Scrap Sisal.....	2.25	@	2.30
Scrap Sisal for Shredding	2.80	@	2.85
Wool Tares, heavy...	—	@	2.25
New Burlap Cuttings	2.45	@	3.00
Aust. wool pouches..	3.60	@	3.75
Heavy bailing bagging	2.50	@	2.70
Paper Mill Bagging..	1.70	@	1.75
Bagging No. 2.....	1.00	@	1.10

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints.	.03½	@	.03¾
New White No. 1.	.08	@	.08¼
New White No. 2.	.06	@	.06¼
New Light Flannelettes	—	@	.06½
Silesias No.....	—	@	.06½
New Black Silesias.	.04¼	@	.04½
Soft Unbleached...	.09	@	.09¼
Blue Cheviot.....	.07¼	@	.07½
Fancy	.03¾	@	.04
Washable	.03	@	.03¼
Cottons—According to grades—			
Blue Overalls.....	.07	@	.07¼
New Black, soft.....	.04¼	@	.04½
Khaki Cuttings.....	.04½	@	.04¾
O. D. Khaki.....	.04¾	@	.05
Corduroy	.03¼	@	.03½
New Canvas.....	.07¾	@	.08¼
B.V.D. Cuttings.....	.08¾	@	.09
White No. 1—			
Repacked	—	@	2.75
Miscellaneous	2.50	@	2.75
White No. 2—			
Repacked	1.90	@	2.00
Miscellaneous	2.00	@	2.25
Twos and Blues.....	1.75	@	2.00
Third and Blues—			
Repacked	1.37½	@	1.75
Miscellaneous	1.25	@	1.62¾
Black Stockings.....	3.90	@	4.00
Roofing Stock—			
No. 1.....	—	@	1.40
No. 2.....	—	@	1.25
No. 3.....	—	@	1.15

Domestic Rags (Old)

(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	—	@	2.75
Miscellaneous	2.50	@	2.75
White No. 2—			
Repacked	1.90	@	2.00
Miscellaneous	2.00	@	2.25
Twos and Blues.....	1.75	@	2.00
Third and Blues—			
Repacked	1.37½	@	1.75
Miscellaneous	1.25	@	1.62¾
Black Stockings.....	3.90	@	4.00
Roofing Stock—			
No. 1.....	—	@	1.40
No. 2.....	—	@	1.25
No. 3.....	—	@	1.15

Foreign Rags

(F. o. b. Boston)

Dark Cottons.....	1.50	@	1.60
Dutch Blues.....	2.85	@	3.00
New Checks and Blues	2.85	@	3.00
Old Fustians.....	2.75	@	2.95
Old Linsey Garments	2.00	@	2.15
New Silesias.....	6.50	@	7.00

PHILADELPHIA

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1.	.07½	@	.08
New White, No. 2.	.04½	@	.05
Light Silesias.....	.05½	@	—
Silesias, No. 1....	—	@	.05½
Black Silesias, soft.	.03	@	.03½
New Unbleached..	.07½	@	.08
Washable, No. 1..	.02	@	.02¼
Blue Overall.....	.04½	@	.05
Cottons—According to grades—			
Washable, No. 2..	—	@	.01¾
New Blue.....	.01½	@	.01¾
Fancy Percales....	—	@	.03½
New Black Soft...	.03	@	.03½
New Light Seconds	—	@	.05½
New Dark Seconds	1.25	@	1.50
Khaki Cuttings—			
No. 1 O. D.....	.03½	@	.04
No. 2 Mixed.....	—	@	.02¾
Corduroy	.02¾	@	.03
New Canvas.....	.06	@	.06½
New Black Mixed.	.02	@	.02¾

Domestic Rags (Old)

White No. 1—			
Repacked	3.00	@	3.25
Miscellaneous	2.50	@	2.75
Thirds and Blues—			
Miscellaneous	2.00	@	2.25
Repacked	2.25	@	2.50
Black Stockings (Export)	4.00	@	4.50
Roofing Stock—			
Foreign No. 1....	1.50	@	1.75
Domestic No. 1...	1.50	@	1.70
Domestic No. 2...	1.30	@	1.40
Roofing Bagging..	—	@	1.25

Bagging

(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.80	@	2.00
Domestic	2.00	@	2.25
Manila Rope.....	3.75	@	4.00
Sisal Rope.....	2.00	@	2.25
Mixed Rope	1.00	@	1.10
Scrap—			
No. 1.....	1.50	@	1.75
No. 2.....	1.00	@	1.25
Wool Tares, heavy..	3.25	@	3.50
Mixed Strings.....	1.00	@	1.10
No. 1 New Light Burlap	3.00	@	3.50
New Burlap Cuttings	2.00	@	2.25

Old Papers

(F. o. b. Phila.)

Shavings—			
No. 1 Hard White.	2.55	@	2.75
No. 2 Hard White.	2.40	@	2.55
No. 1 Soft White..	2.40	@	2.55
No. 2 Soft White..	1.50	@	1.75
No. 1 Mixed.....	.80	@	.90
Solid Ledger Stock..	1.75	@	1.85
Ledger Stock, white.	1.60	@	1.70
Ledger Stock, colored	1.35	@	1.45
No. 1 Books, heavy..	1.05	@	1.10
Manila Cuttings.....	1.75	@	1.85
Print Manila.....	.50	@	.55
Container Manila....	.45	@	.50
Kraft Paper.....	1.30	@	1.40
No. 1 Mixed Paper..	.35	@	.45
Straw Board Chip...	.40	@	.45
Binders Board Chip.	.40	@	.45
Corrugated Board...	.50	@	.55
Overissue News.....	.60	@	.65
Old Newspapers	.40	@	.45

BOSTON

Old Papers

(F. o. b. Boston)

Shavings—			
No. 1 Hard White.	2.25	@	2.40
No. 1 Soft White..	1.85	@	2.15
No. 2 Mixed.....	.75	@	.80
Solid Ledger Books..	1.50	@	1.75
Overissue Ledger Stock	1.30	@	1.50
Mixed Ledgers.....	.85	@	.90
No. 1 Books, heavy..	1.00	@	1.10
No. 1 Books, light..	.65	@	.75
Crumpled Stitchless Book Stock.....	.50	@	.60
Manila Env. Cuttings	1.60	@	1.70
Manila Env. Cuttings, extra quality.....	2.20	@	2.30
No. 1 Old Manila...	.95	@	1.00
White Blank News..	1.30	@	1.40
No. 1 Kraft.....	1.45	@	1.50
Mixed Papers.....	.27½	@	.30
Print Manila.....	.60	@	.65
Container Manilas...	.27½	@	—
Old Newspapers.....	.37½	@	.40
Overissue News.....	.45	@	.50
Box Board Chips....	.35	@	.40
Corrugated Boxes....	.35	@	.40
Kraft corrugated boxes	1.20	@	1.22½
Screening Wrappers.	.55	@	.60

Bagging

(F. o. b. Boston)

Manila Rope—			
Foreign	—	@	3.75

CHICAGO

Old Papers

(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope Cuttings....	3.30	@	3.40
No. 1 Hard White.	2.60	@	2.70
No. 1 Soft White..	2.10	@	2.15
Ledger & Writings..	1.40	@	1.50
Solid Books.....	1.25	@	1.30
Blanks	1.50	@	1.65
Kraits	1.00	@	1.25
New Kraft Cuts....	1.80	@	2.00
Manila Env. Cuts...	2.20	@	2.35
Ex. No. 1 Manila...	2.20	@	2.35
Print Manila.....	1.70	@	1.80
Overissue News.....	.80	@	.90
Old Newspapers—			
No. 1 Folded News	.80	@	.90
No. 1 Mixed Paper	.80	@	.90
Roofing Stocks—			
No. 1.....	2.00	@	2.25
No. 2.....	1.85	@	2.00

TORONTO

Paper

Bonds and Ledgers

Delivered

No. 1 White	.35½	@	.36½
No. 1 Tints	.36½	@	.37½
No. 2 White	.26½	@	—
No. 2 Tints	.27½	@	—
No. 4 White	—	@	.1550
No. 4 Tints	.16	@	.1650
No. 5 Bond—White .	11.35	@	—
No. 5 Bond—Tints .	12.35	@	—
No. 5 Bond—Golden Rod	13.35	@	—
No. 5 Ledger—White	.1185	@	—
No. 5 Ledger—Tints.	.1285	@	—
No. 6 Bond—White .	10.75	@	—
No. 6 Bond—Tints .	11.25	@	—
No. 6 Bond—Golden Rod	12.75	@	—
No. 7 Bond—White .	9.10	@	—
No. 7 Bond—Tints .	9.60	@	—
No. 7 Bond—Golden Rod	11.10	@	—
Book—			
No. 1 M. F.	7.10	@	7.35
No. 2 M. F.	6.85	@	7.20
No. 3 M. F.	5.60	@	6.20
No. 1 S. C.	7.60	@	7.85
No. 2 S. C.	7.10	@	7.35
No. 3 S. C.	6.10	@	6.35
No. 1 Coated and Litho	12.50	@	—
No. 2 Coated and Litho	11.00	@	—
No. 3 Coated and Litho	9.50	@	10.00
Coated tinted.....	13.00	@	13.50
Wrapping—delivered—			
Rag Brown.....	4.85	@	5.55
White Wrap.....	4.00	@	—
"B" Manila.....	4.90	@	6.25
No. 1 Manila.....	5.50	@	7.00
Fiber	5.50	@	—
Kraft, No. 2.....	5.50	@	—

(F. o. b. Cars, Toronto)

News, per ton—			
Rolls (contract)...	38.50	@	—
Sheets	45.50	@	—

Pulp

Ground wood.....	32.00	@	—
Unbleached Sulphite.	59.00	@	—
Book (Class 1).....	71.00	@	—
Writing (Class 2)..	72.00	@	—
Select (Class 3).....	73.00	@	—

Old Waste Paper

(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut...	2.50	@	—
Soft White.....	2.15	@	—
White Blk. News..	1.25	@	1.40
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.00	@	—
Light and Crumpled Book Stock.	.85	@	—
Ledgers and Writings	1.20	@	—
Manilas—			
New Manila Cut...	1.50	@	—
Printed Manilas...	.65	@	—
Kraft	1.00	@	1.70
News and Scrap—			
Strictly Overissue.	.65	@	—
Strictly Folded....	.60	@	—
No. 1 Mixed Paper..	.50	@	—

Domestic Rags

(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.09	@	.09¼
Fancy Shirt Cuttings	.03½	@	.03¾